Exploring the Implementation of Online Non-Formal Project-Based Language Learning in the Indonesian Context

Thesis

Exploring the implementation of online non-formal project-based language learning in the Indonesian context

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Abstract

Proficiency in English is highly valued in Indonesia. Consequently, the low language attainment amongst learners despite years of compulsory English classes has been a cause for concern. This qualitative study explores the use of multiple Web 2.0 technologies (Facebook, WhatsApp, Google Docs, and LINE) to facilitate non-formal English language teaching and learning in Indonesia. Project-based language learning (PBLL) was chosen as the pedagogy to create meaningful opportunities for target language use and practice beyond the classroom.

Taking on a dual role as a teacher and researcher, I carried out two rounds of data collection (four weeks each) which involved a total of 21 undergraduate students from across Indonesia. Participants were asked to collaboratively create the contents for an English learning website targeting elementary-school children. Adopting the role of a facilitator, I provided extensive support, guidance and encouragement. Rich online data were gathered from all of the Web 2.0 tools employed in the study. In addition, data were collected from a research diary, learners' reflections, and post-study interviews. All data were subsequently analysed using qualitative content analysis within an interpretivist paradigm.

The findings show that many learners may not be ready for, or readily engage with, the student-centred learning approach championed by PBLL. This is evidenced by generally low levels of learner participation. Learners reported several obstacles to their engagement during the project: language anxiety; external commitments beyond the project; and technological issues. A minority of participants who persevered, and participated actively, successfully produced their chosen artefact within the study time frame. PBLL afforded four types of language learning opportunities: form-focused instruction, peer review, interaction in the target language, and collaborative dialogue. Learners' feedback reveals that they viewed their online non-formal PBLL experiences differently: What some learners considered positive aspects of the project, could be considered negative or challenging by others, and vice versa. Despite this, all learners agreed that the project benefited them albeit in different ways.

The study makes a valuable contribution to the literature on PBLL, offering new insights regarding its integration into online teaching and learning in a non-formal context. The study is unique as it closely scrutinises both the complexities of implementing online PBLL in non-formal education and navigating various digital technologies in the process of language teaching and learning. The demands for English language learning in Indonesia and similar countries, are vast and consequently the implications of this study are relevant for a number of educational contexts. In recognition of this, strategies are suggested to assist the implementation of non-formal online PBLL in the future.

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List of abbreviations

CLT	Communicative Language Teaching
EFL	English as a Foreign Language
ELT	English Language Teaching
ELTL	English Language Teaching and Learning
ESL	English as a Second Language
FFI	Form-Focused Instruction
GD	Google Docs
I	Interview (only in Chapter Six)
ICT	Information and Communication Technology
L1	The First Language
L2	The Second Language (used interchangeably with the foreign language)
LR	Learners' Reflection
LRE	Language-Related Episodes
OECD	Organisation for Economic Co-operation and Development
PBL	Project-Based Learning
PBLL	Project-Based Language Learning
SLA	Second Language Acquisition (used interchangeably with second language learning)
TBL	Task-Based Learning
ZPD	Zone of Proximal Development
DMC	Directed Motivational Current

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Chapter 1 Introduction

1.1 Overview of the chapter

This chapter introduces readers to the thesis. It begins by presenting the research context, followed by constraints affecting English language teaching and learning (ELTL) in Indonesia, as well as strategies implemented to alleviate these constraints. Against this backdrop, the development of the research aim is briefly described.

1.2 Context and the position of English in Indonesia

Indonesia is the fourth most populous country in the world, with an estimated population of 265 million (Worldometers, 2018). It consists of over 17,000 islands, stretching along the equator between Southeast Asia and Australia, with more than 700 languages spoken by different ethnic groups.

Historically, Indonesia was occupied by the Dutch for over 350 years and then Japanese for 3 years, before finally winning its independence in 1945. Bahasa Indonesia (the Indonesian language), derived from the Malay language, was first introduced as the official language at the first Indonesian Youth Congress in 1928. The 1945 Constitution cemented the status of Bahasa Indonesia as the official national language. Bahasa Indonesia was and continues to be seen as a unifying tool amongst the 'potential danger of ethnic divisions and conflicts occurring in such a large and diverse nation' (Paauw, 2009: 5). To foster the use of Bahasa Indonesia, it is taught as a compulsory subject at all levels of education; as a result most Indonesians speak Bahasa Indonesia and at least one regional language (Lie, 2017). Standard ('correct') Bahasa Indonesia is used in formal situations, e.g. in speeches and official documents, but in daily life colloquial Bahasa Indonesia is more commonly used.

English was chosen as the first foreign language to be taught in Indonesian schools over Dutch because the latter was considered the language of colonialists and did not have an international status (Lauder, 2008; Lie, 2007). Indonesian policy makers, however, seem to have a 'love-hate view of English' (Lauder, 2008: 14). On the one hand, English has been framed as an essential tool to accelerate development and economic growth. On

the other hand, the spread of English has been associated with the threat of western 'liberal values' which could erode Indonesian culture, values, and behaviour (ibid.). This anxiety could be the primary reason for the closing of international standards schools, which use English as their medium of communication, and for reducing English instructional hours in high schools in the latest 2013 curriculum (Lie, 2017).

Despite the inconsistent policy on the use of English, such as banning businesses from using foreign names and requiring them to be changed into Bahasa Indonesia in 2000 and then lifting the ban a few years later, English is generally viewed as a language of prestige and power (Lie, 2017). Moreover, English is a form of cultural capital (Lamb, 2011) and is often a requirement for securing a favourable job (Lie, 2007). The majority of learners are aware of the importance of English and therefore motivated to learn (Jaliyya & Idrus, 2017; Yulia, 2014). These days it is not uncommon to hear English words sprinkled into Bahasa Indonesia. More recently, phrases consisting of a hybrid of English and Bahasa Indonesia, such as *kids zaman now* (young people nowadays), became widely popular amongst the general public, the press, and even politicians. The politicians' use of code-mixings in formal forums has attracted criticism from those who are concerned that Bahasa Indonesia will slowly be undermined (Eroby, 2017).

Inconsistent government investment in English language education may be one of the causes for the low English attainment in Indonesia. According to the English Proficiency Index (EPI)[1] published by Education First (EF), an international education company, Indonesia has Low Proficiency and ranks 39, well below its neighbouring countries such as Malaysia at 13 and the Philippines at 15 (EF, 2018). Low Proficiency in this index means most Indonesians are not yet able to use English to participate in meetings in their area of expertise, understand song lyrics, and write professional emails on familiar subjects, all of which are skills that individuals should possess in the Moderate Proficiency level, i.e. the next level up from Low Proficiency (ibid.). Lie (2017) cautions that the quality of the EF EPI is still debatable, but concedes that it is the only available reference that uses a large

1 The EF EPI is based on test data from more test takers who completed the EF Standard English Test (EF SET), which is an online, adaptive English test of reading and listening skills. The High, Moderate, and Low Proficiency bands correspond to CEFR level B1, with each band corresponding to a single EF course level (EF, 2018: np).

number of test-takers to compare adult English proficiency where English is not a native language.

Indonesia has been successful in implementing its national language policy, but this was possibly achieved at the cost of Indonesians' mastery of English, which consequently reduced Indonesia's ability to compete and participate effectively in the global world (Paauw, 2009). The next section will therefore look at the history of ELTL in Indonesia as well as the potential impacts of language policy on students' motivation and skills.

1.3 English language teaching and learning in Indonesia

The English teaching curriculum in Indonesia has been changed eight times using three different approaches (Ariatna, 2016; Lie, 2007, 2017; Murniati & Riyandari, 2016; Sahiruddin, 2013) as can be seen in Table 1.1.

Table 1.1 ELT curricula in Indonesia

Starting year	Name of curriculum	Approach
1945	Unknown	Grammar translation
1958	Oral approach	Audio lingual
1975	Revised oral approach	Audio lingual
1984	Communicative approach	Communicative
1994	Meaning-based curriculum	Communicative
2004	Competency-based curriculum	Communicative
2006	School-based curriculum	Communicative
2013	The 2013 Curriculum	Communicative

In the early days, the primary goal of English instruction was to develop students' reading skills so that they can read English textbooks (Renandya, 2004). This, however, was deemed unsuccessful and Indonesian policy makers responded by adopting a communicative approach designed to improve communicative competence, defined by Canale and Swain (1980: 20) as

> a synthesis of knowledge of basic grammatical principles, knowledge of how language is used in social settings to perform communicative functions, and

knowledge of how utterances and communicative functions can be combined according to the principles of discourse.

The 1984 curriculum was proclaimed to be communicative, but the syllabi were actually still structurally oriented with priority given to linguistic instead of communicative competence (Lie, 2007). The 1994 curriculum also aimed to develop communicative skills whereby students were taught using textbooks containing themes selected and created by the central government (Murniati & Riyandari, 2016; Sahiruddin, 2013). However, the curriculum consisted of a list of topics and grammatical features at a sentence-based level (Madya, 2008) and the focus of teaching was still on a cognitive knowledge of English (Kasihani 2000, cited in Murniarti & Riyandari, 2016). The 2004 curriculum aimed to develop communicative competence and intercultural understanding, but teaching practices remained similar to those in previous periods (Lie, 2007). The 2006 curriculum was similar to the 2004 curriculum and emphasised the development of English competences through the communicative approach. It marked the Indonesian government's attempts to decentralise education by giving schools and teachers autonomy to develop their own curriculum and teaching materials as long as they meet standards developed by the central government. Nevertheless, the local authority lacked the capacity to assume responsibilities given by the central government, creating role confusion among district staff and individual schools. The 2006 curriculum was very general, so teachers were unsure of what to teach and unable to create lesson plans that were suitable for the characteristics of their local school and students (Yulia, 2014). It has been suggested that too much freedom was given to Indonesian teachers, who were deemed to have very low competence by the Indonesian curriculum makers, and this was believed to be the cause of poor educational outcomes following the implementation of the 2006 curriculum (Yulia, 2014). Thus in the 2013 curriculum the Indonesian government reduced teachers' freedom in implementing the curriculum and resumed control by providing more training to ensure consistency (Coleman, 2014). This curriculum emphasises moral education instead of competencies (Murniati & Riyandari, 2016). The 2013 curriculum also aims to eliminate English from primary schools and reduce English contact hours in high schools, leading to widespread criticism that this decision could reduce Indonesian children's ability to compete internationally (Christy, 2014). Currently, however, the implementation of the new 2013 curriculum at national

level has been postponed because the Indonesian Ombudsman concluded that the 'bad implementation' of the new curriculum meant that Indonesia was not ready for it (Idhom, 2014: np). Hence the majority of schools, except for approximately 6,000 schools which piloted the 2013 curriculum, are still using the 2006 curriculum (Christy, 2014).

Overall, English curricula in Indonesia, which since 1984 have been aiming to develop communicative competences, have been continuously reviewed and updated. Nevertheless, learning outcomes are still disappointing (Lie, 2017; Yulia, 2014) due to various issues, which will be discussed next.

1.3.1 Challenges

Prevailing conditions, namely teacher expertise, non-communicative national exams, students' characteristics, and inequality, pose challenges for English language learning and teaching in Indonesia.

1.3.1.1 Teacher expertise

Many English language teachers in Indonesia have a poor command of English themselves and are unable to be good models of English language due to their low English proficiency (Marcellino, 2008; Yulia, 2014). The majority of teachers in Yulia's (2014) study used Bahasa Indonesia, sometimes mixed with the local language, to teach English in class and claimed that they did this to help students understand teaching materials better; however, survey data from the same study showed that nearly 71% of students actually wanted their teachers to use English inside and outside the classroom.

In addition to their already heavy workload, low salaries mean that some Indonesian teachers have to take on a second job, which leaves little time to enhance their own competencies and the quality of their teaching (Lie, 2007). Few teachers actively attend professional development sessions offered by the district and teachers' association, either because of their busy schedule or because the training takes place far away from where they live (Yulia, 2014).

Many teachers do not have the confidence or ability to create their own teaching materials, and some are incapable of using the available resources (e.g. WiFi, computer laboratory) to support their teaching (Yulia, 2014). Thus they rely on textbooks, which are generally grammar-based, to determine what and how to teach (Ariatna, 2016; Fadilah, 2018).

Teachers' inadequate knowledge of communicative pedagogies, combined with their narrow interpretation of the newer curricula, 'seem to have influenced, if not overtly encouraged, the retention of traditional approaches to pedagogy' (Sulfasyah, Haig, & Barratt-Pugh, 2015:53). For example, writing classes observed by Sulfasyah et al. (2015) were teacher-centred and followed the typical *initiation, response and feedback* pattern with little interaction between students. Class activities included copying sentences or a poem from the board, reading from textbooks, making simple sentences based on a text, writing sentences on the board, and writing sentences as a dictation exercise. Writing assessment was based on product, not process, and focused on surface-level skills, e.g. neat handwriting and punctuation, regardless of the type of writing being completed (ibid.).

1.3.1.2 Non-communicative national exams

The policy in which the curriculum is embedded only sets guidelines of standards to achieve but not what and how to teach. All students have to take the same high-stakes national exam regardless of their method of learning. Even though the more recent curricula aim for communicative competence that includes both receptive (reading and listening) and productive (speaking and writing) skills, the main skill tested is reading and the exam is comprised of reading passages leading to vocabulary and grammar questions (Aziez, 2011) presented in a predominantly multiple-choice format (Furaidah, Saukah, & Widiati, 2015). Teachers are under pressure to help students gain good scores in the national exam. If students fail the exam, teachers are often blamed by their principals, who in turn are blamed by the district officials (Yulia, 2014). This situation drives teachers to teach to the test and drill students to do the test in 'smart and quick ways' (ibid., 216). Sometimes the drilling activities, typically consisting of practising to answer multiple-choice questions from textbooks, are not only used by final grade teachers who are

preparing their students for the national exam, but also by other teachers in lower grades whose students are not due for the exam in a few years' time (Furaidah et al., 2015). Drills, however, do not adhere to Communicative Language Teaching (CLT) principles which emphasise authentic communication in the target language (Nunan, 1991). Listening and speaking skills are often ignored as they are not tested in the national exam (Yulia, 2014).

1.3.1.3 Students' characteristics

Owing to the prevalence of teacher-centred lessons, Indonesian learners are often passive in class (Mattarima & Haddam, 2011, cited in Nichols, 2014) because they expect knowledge transfer from teachers (Marcellino, 2008). Some students are uncritical and compliant with the teacher's approach because they consider it impolite to question or interrupt an older person (ibid.). Students are often anxious about making mistakes for fear of being laughed at by their peers (Juhana, 2012; Muamaroh, 2013). Consequently, they choose to be silent and inactive in class (Fadilah, 2018). Many students are neither confident nor accustomed to using English. Pre-service teachers in Muamaroh's (2013) study used Bahasa Indonesia in English classes, even when they were aware that the class activities specifically targeted their speaking skills. They discussed speaking tasks in Bahasa Indonesia or their local language and when their teacher approached, they switched into English (ibid.). Sometimes students want and can speak English, but they refrain from doing so for fear of being ridiculed by their peers for 'showing off or trying to be a westerner' (Lamb, 2011: 11). Such barriers could hamper the implementation of CLT which requires active participation from students. Another implication of this teacher-centred education is that Indonesian students rarely work in pairs or groups (Muamaroh, 2013; Rezeki, 2016). This is unfortunate because pair and group work can facilitate interaction, which is crucial for language learning (Ellis, 2012a).

1.3.1.4 Inequality

Compared to their rural counterparts, schools in big cities usually have better resources, such as a language laboratory and internet connection, which allow students to access a variety of learning activities, for example listening to audiotapes, or reading authentic materials online. Meanwhile, some schools in poor areas do not even have electricity.

Teachers in big cities are also more likely to be better qualified than those in remote schools (Fadilah, 2018; Lie, 2007).

Parents from comfortable socio-economic backgrounds often have good English proficiency themselves, and thus can serve as English conversation partners to their children (Lamb, 2011). Also, these parents can afford to provide their children with a variety of additional learning opportunities, such as private courses, exposure to western TV channels, music, or summer school in an English-speaking country (Fadilah, 2018; Lie, 2007). Some teachers and learners consider private courses, not schools, as a requisite for successful English learning in Indonesia (Lamb, 2011). In some schools, 'more motivated' students are selected for elite 'acceleration' or 'excellence' class, with advantages such as slightly more intensive English classes, better classroom conditions, and more competent teachers, which consequently increase their motivation, self-confidence, and language achievement (ibid.,16). Lamb's (2011) longitudinal study in rural Indonesia shows that learners who are supported by their family to exploit language learning opportunities outside school make significant language gains over the six years of schooling. In the long run, inequality in ELT could widen the socio-economic disparity in Indonesia because English 'is used as a common gate-keeping device in both academia and the jobs market' (ibid.,18). This made the reduction of compulsory English teaching hours at schools in the 2013 curriculum even more worrying as it is students from poorer families with no access to additional learning resources who will be mostly affected by the change.

In my personal experience English language proficiency has helped open many doors, both in a personal and professional capacity. Because of these positives experiences, I have been acutely aware of, and disappointed by, the persistent inequality in English learning opportunities and attainment in my home country. This sparked my interest in conducting this research. I wanted to contribute something to address this injustice by examining how access to English language education in Indonesia could possibly be widened.

1.3.2 Improving English language teaching and learning in Indonesia

Several ideas have been put forward to alleviate the challenges around ELTL in Indonesia, such as integrating internet and mobile technology into language classrooms, implementing a group work approach to pedagogy, and integrating English into daily life.

1.3.2.1 Integrating internet and mobile technology

Unequal access to English learning resources and opportunities in Indonesia could perhaps be alleviated by taking advantage of the rapid expansion of internet technology. It facilitates the flow of English into society, and offers new ways of, and reasons for, learning and using English (Lamb, 2011, 2013).

In 2017, Indonesia had 143.2 million Internet users, amounting to 54.7% of its total population (APJII, 2017). The most popular Internet-supported activity is the use of social media, with Facebook having the greatest number of users (APJII, 2016). In his study of adolescents' motivation to learn English in rural Indonesia, Lamb (2013) reported that out of ten participants, six mentioned they had learned English from the internet, either using a mobile phone, or an internet café. More specifically, four students claimed to have used Facebook and other online resources to learn English. Because Lamb's primary aim was to examine motivation, understandably he did not elaborate on how exactly these students learned English using the internet. Still, his research illustrates the potential of exploiting internet technology to help tackle issues of limited class time and the lack of school teaching resources mentioned earlier.

In recent years, English language educators in Indonesia have attempted to bring their students' enthusiasm for technology and social media, especially Facebook, into their teaching. Rodliyah (2016), for example, created a Facebook Group as space for voluntary individual journal writing (on any topics of the students' choosing) outside the classroom. However, student participation in her study was low. Djiwandono (2015) combined the use of Facebook and face-to-face classroom sessions. In his study, Facebook was used as a repository for online materials, such as videos and glossary created by the students. He identified slow internet connection and students' inability to understand some of the teacher's online instruction as the main challenges. Although Rodliyah (2006) and

Djiwandono (2015) both encountered challenges when incorporating Facebook within their teaching, they encouraged other teachers to consider how advances in technology could be used to enhance teaching and learning.

1.3.2.2 Implementing group work

Some Indonesian researchers have investigated group work as a means of to helping students develop their communicative competence. Muamaroh (2013) conducted two stages of research to explore how to improve Indonesian pre-service teachers' speaking skills. First, she investigated how students' confidence in speaking English could be improved and found that pair and small group work gradually increased students' confidence. Second, in small groups, she implemented cooperative learning techniques, i.e. *Learning Together, Team-Games-Tournaments, and Student Teams Achievement*, as a means of improving students' speaking skills. Both the teachers and students struggled at the beginning of Muamaroh's second stage of research. The teachers had difficulty applying different cooperative learning techniques because they did not have enough time to learn the new techniques. Also, they were not used to managing students in groups. The students also had to cope with learning methods, activities, and expectations that were completely new to them. Nevertheless, after three months, Muamaroh found that both teachers and students believed that cooperative learning could be useful for improving speaking skills. She also found a significant improvement in the duration of students' speech (but not in speaking quality). Muamaroh concluded that group work and cooperative learning could be useful for improving speaking skills in Indonesia.

Rezeki (2016) investigated Indonesian undergraduate students' collaborative writing experiences. As some students had little experience in collaborative writing, they had difficulties in solving affective conflicts, such as domination, resistance, exclusion, and silence when collaborating. Rezeki suggested that the Indonesian collectivist culture might have influenced students' performance as they employed strategies, such as silence, to maintain group harmony. Despite experiencing the aforementioned challenges, students reported that collaborative writing provided them opportunities for authentic English use and helped them learn about writing and how to write in English.

Rezeki proposed that collaborative learning be implemented more widely in Indonesia, not only in writing classes, but also in reading and speaking courses.

1.3.2.3 Integrating English into daily life

As a way of addressing the limited time and English resources in the formal education system, Inayati (2015) trained her students to find authentic resources and integrate English into their daily life; for example, by listening to English-language songs, reading articles in English, and writing social media posts in English. Students in this study showed a clear preference for receptive activities (listening and viewing) to productive activities (writing and speaking), typically choosing the former over the latter in their independent study activities. Inayati (2015) was concerned by this large discrepancy as both input and output are important in language learning. She speculated that this could be because receptive activities require less effort than productive ones. On the positive side, almost all students continued their independent study even after the semester ended. Inayati concluded that training students to choose their own English exposure outside the class time was a good option for maximising learning.

The three suggestions for improving ELTL in Indonesia presented in this section are the building blocks of my research, as will be explained next.

1.4 Research rationale and purpose

My study aims to extend and enhance the teaching, and learning, of English in Indonesia by integrating internet technology and group work in students' daily life. Drawing on Inayati's (2015) study, I will foreground the encouragement of students to practise productive skills. This raises the question of which technology, and which group learning pedagogy, to use.

With regards to the choice of technology, initially I chose Facebook because it is the most popular social media platform in Indonesia, and it has been widely used in second and foreign language (L2) education. In choosing a pedagogical approach, I compared various pedagogies which support the use of group learning, such as project-based learning (PBL), problem-based learning, and task-based learning. In PBL, the focus is on the creation of a

final product that can be shared with the intended audience (Railsback, 2002), whilst in problem-based learning, the focus is on problem solving (also commonly seen in PBL, but is not the foundation of the approach) (Dooly, 2010). In the context of L2 education, PBL is commonly referred to as project-based language learning (PBLL). PBLL and task-based learning both stem from the same theoretical understanding that students learn the L2 by using it for purposeful communication (Ellis, 2003), with projects being considered an extension of tasks (Bilsborough, 2013). A project with its wider scope compared to a more tightly defined task should create more opportunity for collaboration and interaction, which is currently lacking in Indonesian L2 pedagogy. Furthermore, the process of creating a product should push learners to practise their productive skills. Thus, PBLL was chosen as the pedagogy for this study. The way I implemented PBLL means that this study is conducted under the banner of non-formal education, i.e. 'education which takes place outside the sphere of compulsory schooling, but where there is an educational intent and planning of teaching/learning activities' (Lafraya, 2011: 8).

Taking into account the different elements that this study is built upon, the original aim of this research was to explore the implementation of non-formal PBLL *on Facebook* in the Indonesian context. However, unforeseen circumstances led to two major decisions. Firstly, before the commencement of my study, some of my Indonesian colleagues raised doubts about their students' willingness to participate in non-formal learning. Therefore, prior to my main study, I decided to conduct an online survey to assess the feasibility of conducting my research in Indonesia and to recruit research participants; this will be explained in detail in Section 3.6. Secondly, during the course of my research, unforeseen students' needs and preferences resulted in the addition and use of other Web 2.0 tools, namely WhatsApp, Google Docs (GD), and LINE; this will be explained in Section 3.8.1. Therefore, the aim of the research developed to encompass all the technology used in the study. Hence the study's revised aim was to explore the implementation of *online* non-formal PBLL in the Indonesian context.

My study seeks to provide insights into what happens when Web 2.0 tools are used to facilitate the implementation of PBLL in a non-formal context. The potential findings would be valuable for other educators who are interested in: using internet technologies; implementing PBLL; engaging learners outside the classroom; or a combination of those.

1.5 Summary

This chapter has provided the background to contextualise the study in its specific setting. English occupies a unique position in Indonesia. It is not widely used in daily life, but it is viewed as a symbol of prestige. English attainment in Indonesia has been low because of challenges that include teachers' low competence, non-communicative exams, students' preference for, and familiarity with, a transmission pedagogy that conflicts with the constructivist epistemological assumptions of CLT, as well as unequal access to English language resources and education. Building on separate strategies suggested by other Indonesian educators, i.e. using internet technology, implementing group work, and integrating English into students' daily life, I have outlined how this study aims to explore the use of Web 2.0 technologies to extend ELTL beyond the classroom in order to give students more opportunities to learn and practise their English language.

The following chapter will present the theoretical frameworks for my research, followed by a review of literature on three important aspects of my study: the use of internet technology in language education; project-based language learning; and non-formal education.

Chapter 2 Literature Review

2.1 Introduction

This chapter starts with an overview of the theoretical approaches which I considered from the outset of my research. First, I provide an overview of learning theories, particularly the constructivist views of learning underpinning my study. Then I discuss second language learning theories with a focus on interactionist and sociocultural perspectives, both of which influenced my research design and guided my data analysis procedures. What follows is the three elements of my study: the use of Web 2.0 tools in L2 education; project-based learning (PBL); and non-formal education.

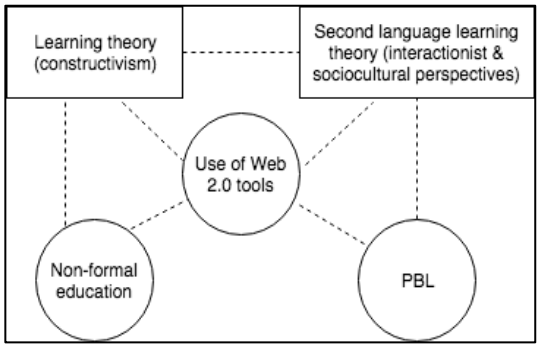


Figure 2.1 Theories informing my study and the three elements of my research

It should be noted that the literature review is divided into five distinct strands, with research on the use of Web 2.0 tools running through non-formal education and PBLL. However, to support a focused in–depth review of the different aspects of my research, Web 2.0 tools *use in L2 education* is presented as a separate section.

Having considered what the research has offered to date, the chapter considers what is required with regard to future research and explicitly identifies how this thesis attempts to address the gaps in the literature. Finally, the research questions are presented.

2.2 Learning theory

Learning theories illuminate the inherently complex process of learning and provide 'a source of verified instructional strategies, tactics, and techniques' (Ertmer & Newby, 2013: 44). Using learning theories as a conceptual framework, instruction can be

structured around optimising learning (Arghode, Brieger, & McLean, 2017; Eryaman & Genc, 2010). Learning theories are generally divided into three main categories: behaviourism, cognitivism, and constructivism. Although these categories have overlapping features, their differences are often highlighted to help educators select principles and conceptions which suit their particular teaching contexts (Ertmer & Newby, 2013).

Behaviourists view learning as a measurable change in behaviour through conditioning which occurs through interaction with the environment. Cognitivists view learning as an internal and active mental process which stresses information storage, processes, and retrieval (Arghode et al., 2017; Ertmer & Newby, 2013; Eryaman & Genc, 2010). Both behavioural and cognitive theories consider that 'the world is external to the learner' and 'the goal of instruction is to map the structure of the world onto the learner' (Ertmer & Newby, 2013: 54).

By contrast, constructivists do not believe that knowledge is independent from the learner. Learners actively construct their own understanding of the world based on their past knowledge, experiences, and interactions with their environments. As meaning is *created* as opposed to *acquired*, there is not one, but multiple understandings of the world. Constructivism has become the foundation of teaching methods which involve, for example, student-centred learning, authentic learning experiences, higher order thinking, and collaborative learning (Ertmer & Newby, 2013; Eryaman & Genc, 2010; Mensah, 2015). Where behaviourist and cognitivist learning theories favour unity and truth, constructivism respects experience and relies on creativity. The concept of learning with and from each other advocated by constructivist theory can be facilitated by using technology in education (Ertmer & Newby, 2013; Weegar & Pacis, 2012). Notwithstanding the value of behaviourist and cognitivist theories of learning, constructivist views of learning fit well with my research aims and were chosen to govern the direction of my study. The next section discusses constructivism in more detail.

2.2.1 Constructivism

Dewey (1938), Piaget (1970), and Vygotsky (1978) are the pioneers who laid the theoretical underpinnings for constructivism working in the early decades of the 20th century. They all contend that learners construct new knowledge by connecting new information to prior experiences. Although their work focuses largely on children's cognitive development, their theories have also been applied to adolescent and adult learning (Blake & Pope, 2008; Hammond, Austin, Orcutt, & Rosso, 2001).

Dewey (1938) emphasises the interdependence between an individual's needs, experiences and the curriculum content. He saw *experience* as key to the learning. For Dewey, experience consists of two conditions: the internal or subjective (individual) and the external or objective (society). Continuous interaction between 'organized logical subject matter and the psychological needs of the child in a social context fosters universal growth' (Dewey, 1938, as cited in Weiss et al., 2005: np). Experience generates another experience and this promotes continuity of knowledge growth (Gross & Rutland, 2017; Romi & Schmida, 2009). Dewey believes that in a democratic society, the main function of education is to improve the reasoning process and schools should prepare students for participation in social and political life. Classrooms should be treated as a microcosm of community where learners are encouraged to work together to solve shared real-life problems (Benson, 2005; Huang, 2002; Lutz & Huitt, 2004).

Similar to Dewey, Piaget also views learning as occurring through engagement with the environment. He explains that the process of coming to know occurred when there are discrepancies between learners' existing cognitive structures and new experiences. Learners would either translate incoming information into a form that matches their existing structures (a process called *assimilation*), or adjust their current knowledge structures in response to the new experience (a process called *accommodation*). The end product of assimilation and accommodation is called *equilibration* which results in more effective self-regulation when processing information from the environment. Piaget also proposes four universal stages of knowledge development: sensory-motor stage (infancy); pre-operational stage (toddler and early childhood); concrete operations (elementary and early adolescence); and formal operations (adolescence and adulthood). Assimilation, accommodation, and biological maturation advances an individual to a

higher cognitive stage (Kugelmass, 2007; Lutz & Huitt, 2004; Mensah, 2015). Piaget and Dewey both believe that the teacher's role is as a guide rather than a director. Teachers shape learners' real experience from the environment and allow the process of discovery rather than outcome-based teaching (Huang, 2002).

Vygotsky (1978) emphasises the role of language, culture, and social interaction in learning and development. According to Vygotsky, there are two levels of mental functions: elementary functions that individuals are born with and higher mental functions, which include 'the creation and use of self-generated stimulation such as memory, attention, thinking and language' (Lutz & Huitt, 2004: 72). The shift from elementary to higher mental functions is culturally mediated by tools such as language and other mediational means (e.g. works of art, various systems for counting, etc.) (Cole & Wertsch, 1996). A central aspect of Vygotsky's account of development is the *zone of proximal development (ZPD)*, i.e. 'the distance between the child's developmental level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (Vygotsky, 1978: 85). Learning within the ZPD occurs through *scaffolding*, i.e. 'the temporary assistance that teachers provide for their students in order to assist them to complete a task or develop new understanding, so that they will later be able to complete similar tasks alone' (Hammond & Gibbons, 2001: 3).

Vygotsky's social constructivism is often distinguished from Piaget's cognitive constructivism on the basis of 'the proximal locus of development' (Cole & Wertsch, 1996: 250). Vygotsky is said to focus on the social processes of human development and mind whereas Piaget purportedly disregards these dimensions and focuses on individual children. The distinction, however, has been criticized as overly simplistic (Cole & Wertsch, 1996; Stetsenko, 2016). In fact, Vygotsky also recognises the centrality of individual construction of knowledge, and Piaget many times states the importance of the social world in knowledge development.

A more appropriate contrast between Vygotsky and Piaget concerns the role attributed to cultural mediation, i.e. 'the mediation of action through artifacts – in the development of

mind' (Cole & Wertsch, 1996: 250). Artifacts here could be physical (e.g. maps, computers) or psychological (e.g. language) (Thompson, 2013), with language considered by Vygotsky 1978) as the most significant mediational tool. As cultural mediation is central to mind and mental development, 'the meanings of action and context are not specifiable independent of each other'; this implies that mind cannot be bounded by the head or even by the body, but instead intertwined with artefacts (Cole & Wertsch, 1996: 253). This phenomenon is not observed in Piaget's theory (Cole & Wertsch, 1996).

Despite their differences, Vygotsky, Piaget, (and Dewey) all consider the growth of human action as a dynamic system formed and expressed in actions embedded in interactions with the world. Because the world is constantly changing, all knowledge construction is related to sociocultural and relational dimensions of human development (Stetsenko, 2016; Stetsenko & Vianna, 2009; Vianna & Stetsenko, 2006). Although working within different cultural milieus (Mayer, 2009), all three scholars oppose 'the traditional views of mind as passive container of knowledge and of learning as a process of acquiring fixed knowledge (facts and information) that are thought to exist independently of human activity' (Stetsenko, 2016: 154). It is clear that Vygotsky, Piaget, and Dewey advocate learners' active participation in knowledge creation. From this perspective, development is rooted in interaction. It follows that the opportunities for collaboration, communication (and possibly even conflict) facilitated by project-based learning are likely to help learners develop new knowledge.

2.2.2 Implications of constructivist learning theory in education

There is no one single set of recommendations on how to incorporate constructivist theories into the classroom. Nevertheless, common threads running through a constructivist approach in teaching and education can be identified. They include: *student-centred learning*, in which learners are encouraged to actively design their learning plans, set their objectives, find resources, and evaluate their learning progress (Eryaman & Genc, 2010; Huang, 2002); *collaborative learning,* which advocate social interaction as a primary source of instruction and allow students to learn from one another (Ertmer & Newby, 2013; Huang, 2002; Lutz & Huitt, 2004); *authentic learning* by providing learning environments that meet real life problems, issues, or events so that

learners are exposed to a range of cognitive processes (e.g. comprehending, analysing, creating, reflecting) which are meaningful to them (Ertmer & Newby, 2013; Eryaman & Genc, 2010; Huang, 2002); and – from the teacher's perspective – *facilitating learning*, which means constructivist teachers need to provide support, directions, and guidelines whilst at the same time encouraging students to question, challenge, and formulate their own ideas and opinions (Huang, 2002; Weegar & Pacis, 2012).

2.2.3 Constructivist approaches to L2 learning and teaching

Constructivist principles, which underscore the importance of learners' active construction of knowledge, both individually and within communities of learners, in real life-based activities have been integrated into L2 education through various pedagogical models. For example, Communicative Language Teaching, which promotes authentic interaction, language use, and engagement with authentic materials, is a 'particular expression of constructivist theory' (Kobo, 2013: 24). Other teaching approaches stemming from the constructivist theory of learning include task-based instruction (Ellis, 2003) and project-based learning (Sidman-Taveau, 2005; Simpson, 2011). In general, the constructivist approaches to L2 education requires the creation of an environment whereby linguistics knowledge is constructed through social interaction in real-life activities (John, 2016; Tarnopolsky, 2012). The emphasis on social interaction for acquiring L2 knowledge is complementary to the interactionist and sociocultural models of second language learning theory, which will be discussed in Section 2.3.1.

In sum, constructivist principles provide the theoretical foundation supporting various aspects of my research. First, with regards to non-formal education, Dewey's commitment to the bond between democracy and education as well as his concept of learning by experience imply 'unity between education and life experiences' (Romi & Schmida, 2009: 262). Second, the integration of Web 2.0 tools, which enable social interaction and collaboration, facilitate the type of learner experiences suggested by the constructivist model of learning (Paily, 2013). Lastly, project-based language learning, with features such as student-centred learning, authentic learning, teachers as facilitators, and collaboration, aligns with constructivist principles (Sidman-Taveau, 2005; Simpson, 2011). Having established constructivism as the theoretical framework for my

research, the next section discusses how second language learning theories, in particular the interactionist and sociocultural theory, informed the design and data analysis procedures of this study.

2.3 Second language learning theories

The term second language broadly includes 'any other language other than the first language' (Ellis, 1994: 11). This definition does not differentiate between *second* language learning, whereby the language is widely used in the immediate environment of the learners which enable them to easily participate in natural communication situations and *foreign* language learning, whereby the language does not have a dominant role in the community where the learner lives (Ringbom, 1980). Second and foreign language learning are often subsumed under the overarching term second language acquisition (SLA) (Ellis, 1994; Mitchell & Myles, 1998); this thesis employs SLA in this sense.

Earlier SLA research sometimes distinguished *learning* from *acquisition*, following the distinction proposed by Krashen (1982, 1985) who claimed that learning is the product of a formal instruction and conscious process, while acquisition happens subconsciously when learners use the target language for natural communication. This thesis uses the two terms interchangeably since my study was not designed to differentiate the two learning processes, which are generally examined by conducting outcome tests, but focuses on exploring possible language learning opportunities in PBLL instead.

L2 development has been investigated using three broad theoretical approaches: linguistic approaches, which focus on 'the formal properties of language and how these shape the development of an L2'; cognitive approaches, which focus on 'the learning dimension of second language acquisition'; as well as interactionist and sociocultural approaches, which focus on 'the social context in which language learning takes place' (Myles, 2013: np). The interactionist and sociocultural models in second language learning theory are particularly relevant to my thesis. As they both focus on the role social context plays in the co-construction of linguistic knowledge, they complement the constructivist theory of learning which underpinned my study.

2.3.1 Interactionist and sociocultural models

According to Myles (2013: np), 'interactionists view language primarily as a source of input which can be modified in various ways in order to facilitate the learning process', while sociocultural theorists 'view language as a tool for thought, and are highly critical of theories which view communication as primarily about the transmission of predetermined meanings and messages'. Interactionists see language learning as separate from language use. They analyse the role of input learners are exposed to, the role of output produced by learners, and the interactional patterns learners engage in, to identify how they affect L2 learning (ibid.). Long (1996) sees interaction as the means of making L2 input more comprehensible by involving linguistic simplification and interactional modifications (e.g. repetition, clarification, and confirmation checks), and thus facilitative of L2 learning. In addition to the importance of interaction, Swain (1985, 1995) asserts that learners' output can serve to elicit modification of input from conversational partners to make it more comprehensible; thus output is another important variable in SLA.

Unlike interactionists who view learners as individuals 'making use of psycholinguistic tools to assist learning', sociocultural theorists view learners as social beings 'actively shaping their learning environment and co-constructing knowledge with their conversational partners' (Myles, 2013: np). Knowledge is acquired first through socialising with other people (interpsychological) with language seen as the mediation tool. Shared processes such as problem solving and discussion allow *experts* to scaffold learners into the next development stages in which knowledge becomes internalised (intrapsychological) (Myles, 2013). Sociocultural theorists do not view interaction as a source of input; it plays a central role as a shaper of development (Lantolf, 2000).

In sum, in light of the importance of interaction in language learning, both interactionists and sociocultural theorists often conduct detailed analyses of interactional patterns. For the purpose of reviewing the kinds of interactions which may promote language development in project-based learning, the next section presents four micro-language events relevant to my study: form-focused instruction (FFI); peer review; interaction in the target language; as well as collaborative dialogue and language-related episodes (LREs).

2.3.1.1 Form-focused instruction (FFI)

FFI refers to any pedagogical strategies that aim to draw learners' attention to form (Ellis, 2001; Spada, 1997) and the notion of *form* includes grammar, vocabulary, pronunciation and pragmatics (Ellis, 2016; Nassaji, 2016). It constrasts with meaning-oriented instruction, such as in immersion programs and early CLT approaches that eschewed any attention to form. These largely failed in producing learners who achieved native-like L2 accuracy, whereas *form-focused instruction (FFI)* is seen as beneficial for L2 learning (Ceallaigh, 2016; Macías, 2011; Myles, 2011; Williams, 2005)

FFI incorporates two very different ways of viewing instructions aimed at linguistic forms: focus on forms (the *traditional structural and synthetic approaches* to language teaching in which the target language is made explicit) and Long's (1991) focus on form (instruction that draws learners' attention to forms that *arise spontaneously* during *meaning-based communication*) (ibid.). Long's initial conceptualisation of focus on form subsequently expanded to FFI, which is broader in scope and includes focus on forms. Table 2.1 summarises the key differences between Long's original focus on form and FFI (Ellis, 2015, 2016; Spada, 2011).

Table 2.1 Focus on form versus FFI

Focus on form	FFI
Reactive (a response to an error that a student makes in a communicative activity)	Can be reactive or pre-emptive (i.e. attention to form even though no specific problem in production has occurred)
Incidental (a response to whatever communicative or linguistic problems arise while learners are primarily focused on meaning)	Can be incidental or pre-planned (and thus address a pre-determined linguistic feature(s))
Integrated (occurs in a communicative context)	Can be integrated or isolated (occurs separately from communicative context)
Typically implicit (does not directly indicate that an error has been made nor involve any metalinguistic explanation)	Can be implicit or explicit (direct indication that an error has been made, e.g. by formally correcting the error or by using metalanguage to draw attention to it)
Constitutes an 'approach' to teaching that contrasts with a traditional focus on form approach	Not an approach but rather a set of tech- niques deployed in a communicative context by the teacher and/or the learners

FFI is supported by both sociocultural theorists and interactionists. In terms of sociocultural theory, FFI 'mediates the intra- and interpsychological processes involved in learning' (Ellis, 2012: 273). From interactionists' perspective, focus on form 'facilitates noticing, noticing the gap, and modified output' (ibid.). Input is the requirement for any L2 learning (Williams, 2005). Linguistic forms cannot be acquired unless learners notice what is present in input (Schmidt & Frota, 1986). However, simultaneous attention to meaning and form is unlikely due to limited information processing capacity, particularly for beginner-level learners (VanPatten, 1996). Another type of noticing, i.e. *noticing the gap*, can only occur if learners notice that they do not (at least not completely) 'know' the target form. Learners use their interlanguage and realise they are making an error. In this situation, focus on form in the form of negative evidence (reactive FFI/ feedback on error/ error correction) is necessary. Negative feedback may lead to modification of output in the direction of target accuracy (Williams, 2005). In other words, reactive FFI (especially the explicit and output-prompting types, i.e. clarification request, repetition, elicitation, and metalinguistic prompts) may make input more salient, and thus help learners to notice the gap and incorporate the new form into their developing interlanguage (Ellis, 2012b; Williams, 2005). Whereas focus on form has been treated with skepticism (Poole, 2005; VanPatten, 1996), substantial empirical evidence shows that FFI *facilitates* L2 acquisition (Ellis, 2012b, 2016; Spada, 2011).

2.3.1.2 Peer review

The use of peer review, (also called peer feedback), in L2 classrooms is supported by both sociocultural and interactionist approaches. It is defined as

> a collaborative activity involving students reading, critiquing, and providing feedback on each other's writing, both to secure immediate textual improvement and to develop, over time, stronger writing competence via mutual scaffolding. (Hu, 2005: 321-322)

Grounded in Vygotsky's (1978) sociocultural theory of mind, peer review activities provide learners with plentiful opportunities for social interaction which may result in higher level mental processes. The language use within the interaction serves as the 'critical device for mediating cognitive development' (DiCamilla & Anton, 1997: 164).

Although teachers are traditionally the main provider of this type of scaffolding, learners with similar proficiency are also able to assist each other and develop linguistically beyond their own independent performance (Donato, 1994; Ohta, 2000; Villamil & de Guerrero, 1996). Collective scaffolding whereby learners pool their linguistic resources and co-construct knowledge about language (Donato, 1994) benefits all participants in peer review groups; they may give and receive help, as well as teach and learn how to revise (Villamil & de Guerrero, 1996). Working within their respective ZPD, peer feedback helps learners to shift from 'interpsychological to intrapsychological functioning and … move from stages of other-regulation (i.e. performing with assistance from others) to self-regulation (i.e. the ability to accomplish activities with minimal or no external support and of independent problem solving)' (Yu & Lee, 2016: 464).

The interactionist theory suggests that interaction facilitates language development because it provides learners with opportunities to receive explicit and implicit feedback, which may draw their attention to gaps in their interlanguage and encourage them to modify their own output (Long, 1985, 1996; Swain, Brooks, & Tocalli-Beller, 2002); peer interaction during peer review activities offer plenty opportunities for all of these (Hyland & Hyland, 2006). The nature of peer interaction in peer feedback activity affects learning outcomes. Collaborative interaction patterns, where learners work together on all parts of the tasks, and are willing to engage with each other's ideas (Storch, 2002), afford 'more learning possibilities for students to develop themselves by scaffolding assistance or by changing their participation from a peripheral to a more central role' (Yu & Lee, 2016: 475).

Some of the early research on the use of peer feedback in L2 classrooms raised concerns over various challenges which could turn the pedagogical activity into an unproductive event (e.g. Carson & Nelson, 1996; Connor & Asenavage, 1994; Zhang, 1995). However, despite the challenges, more recent research has generally lent support to the use of peer feedback in L2 education (Azizian & Rouhi, 2015; Ebadi & Rahimi, 2017; Sampurna, 2011). Conducting experimental studies, Azizian & Rouhi (2015) and Lundstrom & Baker (2009) found that although peer reviews benefit both the feedback receivers and 'givers', the latter made more significant improvements compared to the former, either in terms of larger gains in writing scores (Lundstrom & Baker, 2009) or higher accuracy in targeted

grammatical forms (Azizian & Rouhi, 2015). Peer feedback is an essential element of PBL. In this study, learners giving, receiving, and responding to peer feedback was considered as opportunities for language learning.

2.3.1.3 Interaction in the target language

Sociocultural theorists view L2 classrooms as environments where active participation in the target language should be promoted (Johnson, 2003). Interaction within these individually created ZPDs, which could be realised not only in the format of *collaborative dialogue* (discussed next), but could also be within an *everyday conversation* (Johnson, 2003). Everyday conversation – characterised by unplanned conversation, unpredictable outcomes, and symmetrical power among each participant – is considered by van Lier (1996) as well as Zuengler and Miller (2006) the ideal form of interaction for helping learners form higher mental functioning and develop autonomy. Myles (2013: np) asserts that 'learning *is* language use'. Learners' ability to regulate interaction in L2 leads to ability to use the L2 itself as a cognitive tool (Kurata, 2010).

Conversational interaction should include not only collaborative interaction with more capable others, but also peers at the same level of development (Johnson, 2003; van Lier, 1996). Van Lier (1996: 193) maintains that 'conversational interaction among language learners of roughly equal ability might be particularly useful, perhaps more so, in certain circumstances, than interaction with more capable peers or with native speakers'. It 'encourages the creation of different kinds of contingencies and discourse management strategies' (ibid.), whereby contingency is described as 'a web connecting threads between an utterance and other utterances, and between utterances and the world' (p. 174). Using L2 as a means of social practice in interactions is critical to language development (Chapelle, 2009).

2.3.1.4 Collaborative dialogue and language-related episodes (LREs)

Broadening her original output hypothesis, Swain's (2000) *collaborative dialogue* views output within the sociocultural perspective. Through collaborative dialogue whereby 'learners work together to solve linguistic problems and/or to construct language or knowledge about language' (Swain et al., 2002: 172), learners mutually scaffold each

other for joint decision making and problem solving. Collaborative dialogue is both 'a cognitive tool to process and manage meaning making and a social tool to communicate with others' (ibid). Collaborative dialogue, which is basically student-initiated incidental focus on form, may be 'the most fertile ground for target language acquisition… because more noticing is associated with learner-topicalised interactions' (Eslami & Kung, 2016: 403).

L2 that has been learned serves to mediate further language learning through dialogic interaction (Swain et al., 2002). Swain et al. (2002: 173) assert that acquisition occurs *in* interaction, not *as a result of* interaction and suggest that a detailed (microgenetic) analysis of dynamic peer to peer interaction could shed light on how language learning affordances are created.

Collaborative dialogue has been operationalized through *language-related episodes* (LREs), i.e. 'any part of a dialogue where the students talk about the language they are producing, question their language use, or correct themselves or others (Swain & Lapkin, 1998: 326). LREs are regarded as the site of language learning because they evidence language learning in progress (Zeng & Takatsuka, 2009).

Having presented four micro-language events as possible language learning opportunities, the next section looks at the need for collaborative tasks in L2 learning.

2.3.2 Collaborative tasks and language learning

Cognitive and social engagement in L2 education can be prompted by collaborative tasks which require learners to use the target language meaningfully in tasks that have a connection to the real world (Bygate, Skehan, & Swain, 2001). In order to accomplish their tasks, learners use language as a tool to negotiate both form and content (Swain, 2001). Collaborative tasks can stimulate learner interaction and participation as well as allowing them to experiment on their L2 use through reformulation of their production, peer correction, and negotiation to achieve their goal.

These tasks may also encourage active contribution towards the co-constructed output because of shared responsibility and a sense of ownership (Zeng & Takatsuka, 2009). In

order to facilitate interaction, teachers should create or develop collaborative tasks which enable learners to control their own learning process and bring their values, opinions, and knowledge of the world, into the tasks they participate in (Lima, 2011). In this regard, project-based language learning, a pedagogical format which engages students in real-world tasks, is a valid approach to language learning and thus provides the foundation of my study.

Project-based language learning will be reviewed later in Section 2.7. But first, the use of Information and Communication Technologies (ICT) and Web 2.0 tools in (L2) education will be presented as this ties in with constructivism, interactionist and sociocultural perspectives of language learning, PBLL, and non-formal education.

2.4 ICTs and Web 2.0 tools in education

According to Toomey (2001, cited in Lloyd, 2005), ICTs are

> technologies that are used for accessing, gathering, manipulating and presenting or communicating information. The technologies could include hardware (e.g. computers and other devices); software applications; and connectivity (e.g. access to the Internet, local networking infrastructure, videoconferencing). (p. 3)

ICT innovations are associated with changes in almost all aspects of society. In the context of education, ICTs have the potential to 'transform the nature of education – where and how learning takes place and the roles of students and teachers in the learning process' (UNESCO, 2002). ICTs encompass Web 1.0 (read-only web), Web 2.0 (read-write web), and Web 3.0 (semantic web). Web 1.0, which is somewhat mono-directional, is deemed incompatible with the nature of my study. Meanwhile, Web 3.0, which sets to link data across various applications (Aghaei, Nematbakhsh, & Farsani, 2012), is more geared towards individualised learning (Jiang, 2014). Web 2.0, which targets on content creation by users (Aghaei et al., 2012), is deemed the most suitable platform for PBL, which requires the production of artefacts at the end of the project.

Web 2.0 technologies are 'openly available online technologies that allow creation, editing and sharing between (often large) groups of people via a web-browser' (Bower,

2016: 765). They have quickly become a common feature in education. This is not surprising because these tools offer an array of features (or affordances) that make them attractive for learning and teaching. Treem and Leonardi (2013) identified four unique affordances of social media in organisational practices: visibility; persistence; editability; and association. Although they used the term *social media* throughout their paper, they were explicit that this was often recognised as *Web 2.0* in the literature (Treem & Leonardi , 2013: 179). Koehler, Newby, & Ertmer (2017) argued that these affordances are also applicable to educational environments and added one more affordance apparent in educational research: ownership.

Table 2.2 Overview of Web 2.0 affordances

Affordance	Description	Example (from Koehler et al., 2017: 183)
Visibility	The ability [of social media] to make [users'] behaviors, knowledge, preferences, and communication network connections that were once invisible (or very hard to see) visible to others (Treem & Leonardi, 2013: 150).	Individuals using Facebook can see others' friending, revisions, and contributions.
Persistence	Social media allow for content previously created and published to remain permanently accessible (Vaast & Kaganer, 2013: 80).	Posts in blogs available to viewers even when the author is not logged into the system and typically are indexed in a specific chronological order.
Editability	Social media allow users to spend time and effort crafting and recrafting a communicative act before it is viewed by others (Treem & Leonardi, 2013: 159).	Wiki content can continually be revised after the initial creation.
Association	Social media can create and sustain relationships between individuals and content (Vaast & Kaganer, 2013; Treem & Leonardi, 2013)	Individuals can connect with other individuals and information via Twitter.
Ownership	Web 2.0 technologies provide learners with options for creating and displaying the content that they developed, while exploring many roles (e.g. writer, publisher, graphic designer) (Koehler et al., 2017: 183).	Individuals can use YouTube to showcase their creative work, share an important message, and/or start an important conversation.

These Web 2.0 affordances potentially enable pedagogical tools that facilitate learner-centred education. They facilitate possible communication, collaboration, co-production of content, creation of communities of learning, and construction of knowledge, all of which are valued within constructivist and socio-constructivist paradigms of learning (McLoughlin & Lee, 2007, 2011; Ullrich et al., 2008). Despite the promising potential of

Web 2.0 affordances in education, Warschauer (2009: xx) warned that Web 2.0 is not 'a magic bullet to solve educational problems'. Exploitation of Web 2.0 tools should be in line with 'learner needs, teacher capacity, local social contexts' (Warschauer, 2009: xx) and informed by learning pedagogies (McLoughlin & Lee, 2007).

What constitutes Web 2.0 technology precisely is difficult to decide. There are no clear established criteria and previous categorisations of different types of Web 2.0 appeared to have used different nomenclature and the rationale for including or excluding particular tools was not made explicit (Bower, 2016). Nevertheless, the multiple tools used in this study, namely Facebook, Google Docs (GD), and WhatsApp are generally viewed as Web 2.0 technologies (cf. Barhoumi, 2017). The fourth tool used in the study, LINE, is not as popular and has rarely been mentioned in the literature. Since the features of LINE app are very similar to WhatsApp, I would argue that it also constitutes a Web 2.0 tool.

Facebook, GD, WhatsApp and LINE represent different categories of Web 2.0. Facebook is a type of social networking systems, GD is a type of document creation tool (Bower, 2016) while WhatsApp and LINE are instant messaging services (Conole & Alevizou, 2010). Not surprisingly, studies on the integration of each tool into learning related activities tend to investigate different aspects of teaching and learning. The next section discusses studies which employ Facebook, GD, WhatsApp and LINE in language education and considers the various areas that they focused on.

2.5 Web 2.0 tools in L2 education

2.5.1 Facebook

Facebook is a free social networking platform that facilitates interaction between its users. Facebook users can post comments, share photos, links, videos, play games, use Facebook emojis and many reaction buttons including like, love, wow, sad, and angry. It offers asynchronous communication with the main mode being writing, although online communication on Facebook may feel similar to a synchronous interaction if the users are all online and type at the same time. According to Mahmud and Ching (2012) and Wang

(2012), Facebook provides an environment that can mimic the basic features of a Learning Management System. Educators researching Facebook for L2 education generally create a closed Facebook group, which means the group administrator (usually the group creator) must approve members and only members can see posted content. Privacy is therefore maintained because individuals can be members of a group without having to be 'friends' with each other. They can maintain their personal pages while at the same time participating in class-related activities in the Facebook group. Each time a new post is made on a Facebook group wall, members are automatically notified by Facebook, unless the members change their settings.

Many studies investigating the use of Facebook for language learning focus on students' perceptions. This is not surprising as students' views about the effectiveness of instructional practices are important in relation to their achievement of learning outcomes (Nunan, 1987), not least because in the 21st century students bring established 'cultures-of-use', which affect how they use internet communication tools for learning (Thorne, 2003). A relatively large number of studies have shown that students have positive attitudes toward the use of Facebook for L2 education. For example, Dogoriti, Pange, and Anderson (2014) examined Greek students' perceptions of web-enhanced teaching of English using a learning management system, *Moodle*, with and without the use of Facebook as an adjunctive learning platform. They found that the majority of participants preferred using Facebook as a forum for discussion over Moodle because Facebook was viewed to be a less rigid, less formal learning environment. A similar preference for Facebook as a platform for language learning can also be observed in Liaw and English's study (2013). In this study, university students from Taiwan and France who participated in a telecollaborative project initiated their own Facebook group to have discussions on subjects of their choice, at their own pace, parallel to the official project website set by the teachers. On the official site, participants only posted teacher-prescribed work and topics were limited to assignment requirements; by contrast, interactions on Facebook were multidirectional and spontaneous. Favourable attitudes toward the use of Facebook for language teaching and learning can also be observed in other studies, such as: Indonesian undergraduate students who were asked to use Facebook as a space for their journal entries (Rodliyah, 2016); Malaysian undergraduates (in two separate studies) who joined a Facebook group created to provide an informal

English language learning platform (Adi Kasuma, 2016; Kamarudin, 2015); French learners at an American university who were asked to participate in discussions on Facebook with a partner class in France (Blattner & Lomicka, 2012); Taiwanese freshmen in a blended writing instruction who were asked to post writing assignments and conduct peer review activities on Facebook (Shih, 2011); sixth grade learners of English and ninth grade learners of French in Romania who were asked to post assignments on Facebook with the aim of developing communicational competences (Buga, Ionu, Chirasnel, & Popa, 2014); German intermediate learners in New Zealand who were asked to upload a video or photo accompanied by a paragraph in the target language on Facebook (Leier, 2017); and American learners of Chinese who participated in an optional Facebook posting and commenting activity (Wang, 2013).

Learners reported many perceived benefits of integrating Facebook in L2 education. They include: increased confidence in using the target language (Adi Kasuma, 2016; Kamarudin, 2015); an increase in fluency (Kamarudin, 2015); improved grammar and vocabulary (Adi Kasuma, 2016; Rodliyah, 2016); increased motivation to learn (Adi Kasuma, 2016; Buga et al., 2014); and better rapport with peers (Buga et al., 2014; Rodliyah, 2016). Shih (2011) supposed that the '*like*' function moderately stimulated students' motivation for writing and that the use of emoticons available on Facebook enhanced students' interpersonal relationships. Furthermore, the atmosphere of Facebook, which was described by students as casual or pressure-free, could have made students more comfortable about using the target language (Blattner & Lomicka, 2012).

It should be noted, however, that the aforementioned language gains (e.g. grammar and vocabulary) are *perceived* from the students' point of view in qualitative studies. In contrast, measurable outcomes are reported by few studies. Employing a quasi-experimental design, Wang (2013) asked American learners of Chinese in the experimental group to post at least two entries and at least four comments per week on a Facebook page. He found that one-semester posting and commenting in Chinese on Facebook did not impact on writing quality, but it did impact on the quantity of writing. However, Wang (2013) noted that the experimental group had already produced more writing (and their writing was rated more highly) from the onset of the study. Also, the gains from the experimental group over time were quite minimal. Thus, he suggested that

a more conservative interpretation of his study findings was that posting on Facebook helped students to develop literacy skills outside the classroom. In the post study-interviews, the Facebook participants reported that the activity helped them to recognise more Chinese characters, increase their Chinese vocabulary, create opportunities to practise using grammar, and increase their skill in typing Chinese.

Despite students' positive perceptions of Facebook-supported language learning activities, several studies pointed out the inconsistencies between students' reported interest in using Facebook and their actual participation in the learning activities. Leier (2017), as a teacher-researcher, asked 23 students of German in New Zealand to post five artefacts, which included a video or photo upload accompanied by a paragraph of sentences written in L2, as assignment that was worth 10% of the overall class grade. Although students liked using Facebook for L2 learning, most of them used the site passively and only posted when asked by the teacher. Analysing the Facebook log data, Leier found that students were active in the first ten days of the semester, but their participation subsequently decreased, and only picked up at times when an assignment post was due. During the six month-study, some students found that the Facebook exercise had developed into one-way communication, i.e. one-way post which received no comments, only *'likes'* from their peers. Unlike in Shih's study (2011), see above, the students in Leier's study (2017) did not seem to be motivated by Facebook 'likes'; what they wanted was comments presented in German.

Blattner and Lomicka (2012) asked 24 students in an intermediate level French course in the USA to use a group Facebook page created for their course to have an out-of-class discussion, which corresponded with the themes from their textbook, with native French speakers enrolled in an English course in France. The students were given full credit if they responded with a post of at least 50 words and given extra credit if they replied to others' posts. Although the students rated their experience as highly positive, some did not complete their Facebook assignment and a few students admitted that they rarely responded to others while some students revealed that they responded to others only in order to gain extra points. Meanwhile, their French partners, who contributed on a voluntary basis, did not participate regularly.

In non-graded Facebook learning activities, students' participation is even more haphazard. In Rodliyah's study (2016), 15 English Education undergraduates in Indonesia volunteered to participate in journaling activities in a closed Facebook group. Rodliyah neither specified what topic to write, how often, or how long, nor graded their writing or participation because she considered the Facebook activity as an informal learning channel where students could express their ideas more freely than in the classroom. The students showed positive attitudes toward writing journals on Facebook. However, in this four-month study, only five members posted actively, and the rest chose to be silent readers who only read and 'liked' their peers' writing but never posted any entries, or only commented on their peers' journal occasionally.

In Malaysia, two separate studies on the use of Facebook as a platform to extend English language learning beyond the classroom also demonstrated the difficulty in maintaining students' participation in informal learning activities. Adi Kasuma (2016) invited first and second-year students with poor English proficiency to voluntarily join a Facebook group that was created to promote English language interaction and discussion. There was no posting requirements or interaction guidelines for the volunteers. As a participant-observer, Adi Kasuma posted some academic and social information in the group to elicit students' interaction with the content and with each other. The number of members grew from approximately 300 in the first week to approximately 600 in the final (sixth) week. The majority of students reported a positive experience and perceived benefits of joining the group. Nevertheless, only very limited information sharing and interaction activity occurred in the study. Levels of interest wavered after the first week (although more people kept joining), and only about 20% of students made their participation visible. They mostly demonstrated their presence simply by clicking the 'like' button. Of the 20% of students who made their participation visible, only 5% actually made repeated content contributions by posting updates and comments. Those few members tried to initiate conversations, but the rest of the participants remained passive and reluctant to respond. In a different study, Kamarudin (2015) asked an intact class of 27 first-year students (majoring in Civil Engineering) with average to low English proficiency to participate voluntarily in a Facebook group created as an informal platform to learn English with no pre-planned activities. There were two teachers in the Facebook group: the class teacher and Kamarudin (as a practitioner-researcher). The class teacher's

involvement in the Facebook group was visibly minimal as she was busy with other teaching commitments and was also physically unwell. Consequently, Kamarudin played a more central role than the class teacher by encouraging students to respond in English and interact more with their peers. Kamarudin did not highlight specific participation issues, but she did find fluctuations in students' participation throughout the four months of study. At the beginning, participation was low because students were still settling down and new to the Facebook group. In the second month, they participated actively. In the third month, participation level dipped owing to students' preoccupation with assignments, assessments, and at the same time, internet issues on campus. In the final month, students' participation increased again as they sought the teacher's and Kamarudin's help with last minute exam preparation.

As in Kamarudin's study (2015), Wang (2013), who researched American student volunteers' posts on Facebook, noticed a considerable fluctuation in students' activity, with a dip in students' posts on Facebook around midterm and again toward the final week of the semester. Examining the language functions of posts by intermediate-level Chinese language learners, Wang (2013) identified asking questions to be the most frequent language function. However, almost half of these questions remained unanswered by their peers. This showed that despite students reporting their own motivation to write posts in Chinese outside of class, the amount of actual interaction among learners of Chinese on Facebook was minimal.

Overall, it can be concluded that students' participation on Facebook fluctuates regardless of whether their performance is graded or not. Nevertheless, rewards, such as extra credits (Blattner & Lomicka, 2012) or teachers' help with exam preparation (Kamarudin, 2015) seem to improve students' participation.

Several factors have been identified as influencing students' lack of participation in Facebook-supported language learning activities. First, students' assignments or tests take priority over Facebook activities, especially when their participation is not graded (Adi Kasuma, 2016; Kamarudin, 2015; Rodliyah, 2016; Shenggao Wang, 2013). Second, technological issues, such as WiFi problems and digital hardware malfunction, may hamper students' participation (Kamarudin, 2015). Third, low confidence in their L2

ability (Adi Kasuma, 2016; Kamarudin, 2015; Rodliyah, 2016) and anxiety about using L2 in front of their peers (Adi Kasuma, 2016; Kamarudin, 2015; Leier, 2017) prevented students from contributing to their Facebook group. Leier (2017) attributed her students' reluctance to write in German on the Facebook group to students' lack of familiarity with each other at the beginning of the group's creation. Adi Kasuma (2016) discovered that some students were criticised by their peers when they tried to use English. In Kamarudin's study (2015) some students did not interact at all on the Facebook group because they were concerned about coming up with proper sentences or afraid of being accused as showing off. Fourth, some students only ever intended to become receivers of information (silent readers) with no intention of contributing (Adi Kasuma, 2016; Rodliyah, 2016). These silent readers expressed that they are quite confident in their English but chose not to contribute as they did not see the benefits of doing so. They did, however, check the Facebook group whenever they were notified about new posts by Facebook (Adi Kasuma, 2016). This suggests students' lack of participation in independent online learning is influenced by their social context and personal motivations (ibid.). Fifth, the asynchronous nature of Facebook communication may result in some posts getting overlooked if they are buried under newer posts (Wang & Vasquez, 2014). This can be exacerbated if students are involved in more than one Facebook group, and they may be overwhelmed by the number of notification of updates and messages. In Wang and Vasquez's (2014) study, students tended to check Facebook notifications on their mobile phone but reply in Chinese later on their computer. By the time students got to their computer, they may have forgotten about the posts they read earlier on their mobile phone (ibid.). Lastly, motivation to contribute is hard to maintain, which explains why participation rate waned after the initial excitement of Facebook activities (Adi Kasuma, 2016; Leier, 2017; Wang, 2013).

In Kamarudin's view (2015), students' participation is influenced by their *persistence*, i.e. 'acts of continued perseverance to achieve the group's objectives despite facing hardships and obstacles along the way' (p. 189). Even though the students in her study were quite weak in their L2, the persistent ones tried their best to use English, leading to perceived improvement in their English skills. When faced with internet and digital hardware issues, the persistent ones engaged in 'desperate' measures so that they could still access Facebook, e.g. by borrowing their friends' digital devices or searching for

available wifi hotspots. Meanwhile, the non-persistent students used their lack of English ability and technological issues as a reason for their lack of participation. A similar observation on how persistence affects students' participation level can also be found in Wang's study (2012) on telecollaboration, which categorised the Taiwanese participants into high and low participation groups. The latter emphasised the challenge of language barriers and gave up more quickly and easily. They also complained more about the assignments, busy schedules, and irresponsible partners (e.g. as reasons for missing deadlines for the discussions). By contrast, students in high participation groups were able to devise solutions for their problems and regarded the cross-cultural learning opportunity more enjoyable and valuable. In this study, both groups thought Facebook was a good platform for cross-cultural collaboration, but they also thought that the functionality for instant communication was poor. They suggested using additional tools, such as Skype or Twitter, to enable better instant updates about their partners. The low participation group also complained about the disorganised online discussion board because Facebook places a new message at the very top, making it difficult to find older discussion threads; this is similar to the disadvantage of Facebook identified by Wang and Vasquez (2014).

Many of the studies which integrated Facebook into L2 education were designed so that students can use the platform as a 'free' space for using the target language, interacting with others, co-constructing knowledge, and self-directed learning. Some of them refrained from setting a particular task or learning objectives with the intention of retaining the function of Facebook as an informal social platform (Adi Kasuma, 2016; Kamarudin, 2015; Rodliyah, 2016). Even in studies which set requirements, such as a minimum number of posts and deadlines, the researchers still intended for Facebook to be an open social space. For example, by not specifying topics for students' posts, Leier (2017) and Wang (2013) expected students to enjoy the freedom of writing about whatever they liked. However, it has been suggested that too much freedom might actually confuse students if they became lost or did not know what to write about (Wang, 2013). In spite of the educators' best intentions, it seemed that many students still viewed their Facebook activities as an obligation to fulfil a course requirement rather than as personal enjoyment (Leier, 2017; Wang, 2013).

One of the rationales for integrating Facebook into L2 education is its potential for involving students in social activities such as participation and interaction with others (Blattner & Lomicka, 2012; Lantz-Andersson, Vigmo, & Bowen, 2013). It is therefore surprising that only a few studies have focused on the interaction patterns occurring in Facebook group activities. In studies where the majority of participants chose to be silent readers, such as in Adi Kasuma (2016) and Rodliyah's (2016) study, it could perhaps be inferred that student-student interaction was too limited for meaningful analysis. On the other hand, it is difficult to speculate about student-teacher interaction as these studies did not provide sufficient information on this area.

One of the few studies that aimed to analyse interaction patterns in a Facebook group is Lin, Kang, Liu, and Lin's research (2016). In this study, Facebook was used to foster an online learning community, which consisted of 23 sophomores and a teacher, for a blended EFL course in Taiwan. They found that the teacher was at the center of interaction in the group. The teacher was the most frequent post initiator and she expressed the difficulty in promoting high interaction among students. Teacher-initiated posts were usually responded by students and led to teacher-student interaction; meanwhile, student-initiated posts resulted in no response (either from other students or the teacher) most of the time, thereby achieving little interaction. Lin et al. (2016) concluded that the teacher was the driving force for students' posts.

The significance of teachers' roles is also evident in other studies. L2 teachers provided much support for their learners, even though some originally intended to show only minimal teacher presence (cf. Leier, 2017). The nature of this support varied, depending on the research's design and aim. This included, for example: posting materials to elicit students' interaction with content and each other (Adi Kasuma, 2016; Kamarudin, 2015); commenting on students' posts (Kamarudin, 2015; Wang, 2013); asking questions to trigger responses from students (Rodliyah, 2016); managing the course, e.g. by posting announcements, reminders, explaining the assignments, and asking students to upload assessments (Leier, 2017; Lin et al., 2016); and providing corrective feedback (Kamarudin, 2015; Leier, 2017; Wang, 2013). Teachers' corrective feedback was highly valued by learners. Leier (2017) decided not to give extensive feedback in an effort to make Facebook interaction more spontaneous, but she found out in the post-study interviews

that her students actually wanted more feedback. Meanwhile, Blattner and Lomicka's study (2012) did not provide corrective feedback since students were communicating with native speakers; furthermore, they felt the minor errors students made did not impair communication. Nevertheless, at the end of the telecollaboration, their students expressed their desire for teachers' correction.

Interpersonal relationships between students and their teachers is another important factor in students' perceptions of their Facebook activity. Some students in Lin et al.'s study (2016) considered the lack of personal relationship with their teacher on Facebook as a negative aspect of their learning experience. The teacher chose to mainly communicate about course matters and rarely disclosed anything personal; this led students to feel difficulty in building rapport with the teacher. By contrast, Leier (2017) changed her strategy from showing only minimal teacher presence to eventually disclosing more personal information about herself, such as by posting about her holiday. The students enjoyed this, but Leier (2017) maintained that personal disclosure is a thin line and care must be taken to keep a professional distance from the students.

Based on their findings, researchers have made the following suggestions for future integration of Facebook in L2 education. Wang (2013) suggested that instead of giving students full freedom in posting whatever they want (which resulted in students' confusion over what to write), language teachers should include pre-determined learning outcomes in their research design so that students are aware about the goals of their language use and/or learning. The importance of pre-planned tasks so that students can engage in meaningful language-based activities on Facebook was echoed by Leier (2017) as well as Kabilan, Ahmad, and Abidin (2010). Leier (2017) suggested dividing students into smaller groups and getting them to carry out collaborative work, while Kabilan et al. (2010) encouraged future research to examine students' interaction with each other in the pre-determined tasks within the broader Facebook community. To increase interaction and participation on Facebook, Lin et al. (2016) suggested that teachers include more social elements in their task design, while Leier (2017) recommended that teachers, or active students, directly address the passive students by asking them questions regarding the Facebook activities.

These suggestions from past research were taken into consideration during the design of my study. Another suggestion, i.e. to integrate Facebook activities into the curriculum and thus set expectations from the very beginning; for instance, minimum entries and deadlines (Rodliyah, 2016) was not incorporated into the design of my study. This was because there is ambivalence about the value of this practice. Leier's study (2017), which was implemented exactly as Rodliyah proposed, showed that setting a minimum number of posts and deadlines still resulted in a high degree of students' passivity in her Facebook group. In his main study, Wang (2013) also required his participants to post at least two entries and make at least four comments per week on the Facebook group, which were lower compared to the minimum posting requirement he set in his pilot study. His pilot study showed that too many required posts had a negative impact on participation. Even with the reduced minimum posting requirement, Wang (2013) still found fluctuation in students' activity. The weight of existing evidence suggested that setting a minimum number of posts did not seem to affect students' inactivity. Furthermore, as my research focus was on facilitating voluntary learning in a non-formal education, I felt that rigid rules would not be suitable for this context.

2.5.2 Google Docs

Many researchers on L2 collaborative writing used Vygotsky's sociocultural theory – which views learning as a social practice best achieved through interaction and dialogic feedback from teachers and peers – as the theoretical basis for their studies (e.g. Kessler, Bikowski, & Boggs, 2012; Lawrence & Wah, 2016; Woodrich & Fan, 2017). Online collaborative writing in L2 education is often supported by wikis (e.g. Elola & Oskoz, 2010; Li & Zhu, 2017) or Google Docs (GD) (e.g. Abrams, 2016; Cho, 2017; Kessler et al., 2012).

GD is a cloud-based word processing service which allows its users to access, create, edit, and store documents from their various devices with internet connection, such as tablets, phones, or computers. Unlike other Web 2.0 tools, GD allows users to synchronously write, edit, and view the changes made by others with access if they are online at the same time. Besides synchronous editing, GD also supports asynchronous writing and editing, either directly on the text, or via comments that can be left on the right-hand side of the screen (just like in Microsoft Word). GD includes a built-in chat feature so its users

can interact through an instant messaging system, whilst simultaneously working on their document without having to switch screens. All changes made in a GD document are automatically saved as revision history. Hence users can see older versions of the document, retrieve them, and identify who did what to the document from the colour GD assigned to each user. All these features make GD an attractive tool for online collaborative writing (Ebadi & Rahimi, 2017; Godwin-Jones, 2018; Huang, 2017).

Studies of collaborative L2 writing on GD, which addressed students' perceptions of GD-based collaborative writing, have yielded unanimously positive result, i.e. students had positive attitudes toward the incorporation of GD in their collaborative writing tasks. These positive results emerge from a wide range of learners; for instance: linguistically diverse eight-graders in the USA, many of whom were English language learners (Woodrich & Fan, 2017); weak to moderate English EFL learners in Malaysia (Lawrence & Wah, 2016); undergraduates taking an English course at a Thai university (Suwantarathip & Wichadee, 2014); and EFL learners attending an IELTS course in Iran (Ebadi & Rahimi, 2017). Students' positive perceptions may be influenced by the functionality of GD which is easy to use (Lawrence & Wah, 2016; Suwantarathip & Wichadee, 2014) and makes collaborative processes easier. Without the restriction of time and space, students could work on their writing tasks at home where they were able to focus more because they felt relaxed (Ebadi & Rahimi, 2017; Suwantarathip & Wichadee, 2014). Furthermore, students' affective filter – a psychological filter that can impede the absorption of comprehensible input (Krashen, 1985) – may be lowered when working behind an electronic device compared to face-to-face (Woodrich & Fan, 2017). Woodrich and Fan (2017) emphasised that such positive results may not have been possible without first training students to use GD, as 'familiarity with the tools is a key factor in student perception of the collaboration' (p. 395).

Some L2 studies have also investigated the impact of GD-based collaboration on the quality of joint texts and their findings have yielded mixed results. Employing a quasi-experimental design, Suwantharathip and Wichadee (2014) as well as Ebadi and Rahimi (2017) both analysed the impact of online peer-editing using GD. In these studies, learners started with individual writing, followed by online peer review session(s), revision(s), teacher feedback, and the production of final texts. Suwantharathip and

Wichadee (2014) as well as Ebadi and Rahimi (2017) concluded that the experimental group outperformed the control group (face-to-face peer-editing). Suwantharathip and Wichadee (2014) suggested that one of the reasons why the GD groups had better post-test results than the face-to-face group was due to students' awareness that their contribution to the peer review activity was clearly visible to their team members and the teacher. As a result, they may have put more effort in their work and were more serious about collaborating, which could then lead to a more significant improvement in writing abilities. Meanwhile, Ebadi and Rahimi (2017) suggested that GD contributed to students' writing skills because they could reread and conveniently revise their texts many times based on their peers' corrections and comments. By contrast, Woodrich and Fan (2017) found that the use of GD in collaborative writing did not result in more successful writing products. In fact, face-to-face collaboration was found to result in higher average and statistically significant scores compared to GD collaboration. Woodrich and Fan (2017) pointed out that differences in design, population, and task may explain the variety of results. For example, in Woodrich and Fan's study, students worked in groups to collaboratively construct their text on GD (which presumably included peer revision), instead of just using GD for peer-editing after each student had finished their individually-written first draft as in Suwantharathip & Wichadee's study (2014) and Ebadi & Rahimi's study (2017). Although the face-to-face groups produced the best final output, Woodrich and Fan (2017: 404) felt that the use of GD was 'not a complete loss' and continued practice with the tool could lead to higher writing scores when students become more versed in the technology.

Students' writing development may also be influenced by their patterns of interaction in the collaborative writing tasks. Cho (2017) and Abrams (2016) examined group interaction when students worked together on their written products using GD. Both of them drew on Storch's (2002) model of dyadic interaction with two intersecting continua (figure 2.2). The horizontal axis represents *equality*, i.e. 'learners' level of contribution and control over the task' (Storch, 2012: 725). The vertical axis represents *mutuality*, i.e. 'learners' level of engagement with each other's contribution' (e.g. reciprocal feedback and sharing of ideas) (ibid). Storch (2002) identified four patterns of pair relations: *collaborative* (pairs working together on all parts of the task and are willing to offer and engage with each other's ideas); *dominant/dominant* (pairs contributing to the task, but

they do not engage with each other's contribution, resulting in disagreements and lack of consensus; it can also occur when pairs divide the task between themselves with each learner focusing only on their part); *dominant/passive* (one takes an authoritarian stance and the other adopts a subservient role, who makes few contributions, questions or challenges); and *expert/novice* (one takes a leading role, but encourages the novice to participate in the task). Watanabe and Swain (2007) adopted Storch's matrix and investigated how language proficiency level affected dyadic interaction patterns. They added one additional combination: *expert/passive* (one takes a leading role and encourages the partner, but the latter remains passive).

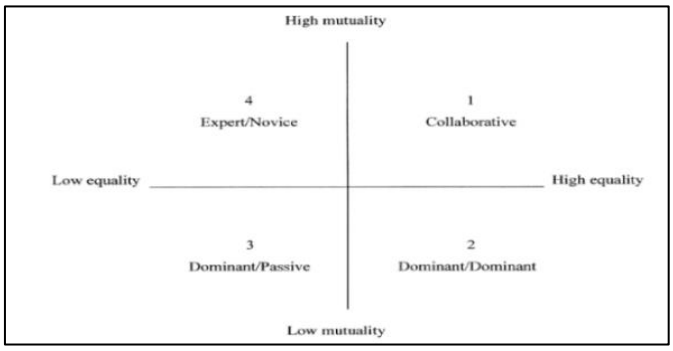


Figure 2.2 Storch's (2002) model of dyadic interaction (p. 128)

Certain interaction patterns appear to be more beneficial for learning. Storch (2002) found that transfer of knowledge was the most evident in the collaborative and expert/novice dyads because they 'engaged in the co-construction of knowledge about language' (p. 148). Watanabe and Swain (2007) also found that pairs with a collaborative interaction pattern are more likely to learn than those with a non-collaborative orientation. Unlike Storch's findings, however, Watanabe and Swain (2007) found that in the expert/novice pairs, only the experts benefited from their interaction. Overall, collaborative patterns of interaction seem to be superior for facilitating learning.

Storch's matrix was originally established for dyadic spoken interaction during face-to-face collaborative writing activity. However, it has more recently been used to analyse triadic interaction patterns in collaborative writing tasks using GD (e.g. Abrams, 2016; Cho, 2017). Findings from these studies can inform improvements in the design and facilitation of collaborative writing activity (Cho, 2017).

Abrams (2016) asked 28 low-mid intermediate learners of German at an American university to work in groups of three or four and write a screenplay for the final 20 minutes of a German film. Abrams (2016) identified three main patterns of interaction: *low* or *passive-passive* (low equality and mutuality; one member produced a text, to which none of the other members responded to outside of class); *sequentially additive*, which closely resembled dominant-dominant interaction (each member produced evenly distributed amount of text, but they added their part without editing each other's work); and *collaborative* (high levels of equality of contribution and mutuality or engagement among team members). Abrams also noted that in the sequentially additive and collaborative groups, one member was very passive, barely contributing anything to the team's output. These passive learners tended to be weaker in their language abilities, suggesting that proficiency level may have an effect on students' participation. Abrams highlighted the need to add the qualifier *predominantly* in the description of small-group collaboration since two members could be collaborative while one was passive or absent.

Cho (2017) also examined the interaction patterns when a group of three L2 writers engaged in synchronous collaboration on GD. She recruited highly motivated Canadian ESL learners with upper-intermediate to advanced proficiency levels from an English Debate Club. Learners were asked to write two debate summaries collaboratively after attending the relevant debate meetings. For the first summary, students were asked to write collaboratively and synchronously using GD and text-chat. For the second one, they were asked to write via GD and voice-chat (Skype). Cho (2017) identified the interaction pattern in the first task as *facilitator/participants*, which was a hybrid of Storch's (2002) expert/novice and collaborative interactions, with one member acting like an expert, but all three members contributed actively and equally. Meanwhile, in the second task, the group's interaction pattern was *collaborative*, with all three members participating more equally than in the first task. Switching the mode of communication from text-chat to voice-chat resulted in a noticeable increase in members' interactions, making the second task more collaborative than the first task. Learners reported preference for voice-chat because of its instantaneous and interactive nature. Cho also speculated that task repetition might have increased team members' familiarity with the dynamics of a group writing task, which could then affect the group's interaction.

It has become clear from the studies presented that learners do not always show collaborative interaction patterns when co-constructing texts on GD. Lack of participation and engagement with each other may become an obstacle in online collaborative writing. To optimise the process of L2 collaborative writing, teachers should monitor and ensure that the writing process is indeed *collaborative* (Abrams, 2016; Storch, 2002), e.g. by allowing or encouraging members to change partners when unproductive interaction patterns are noted (Storch, 2002). Assessments should not only focus on whether the final output meets the expectations for the task, but more importantly, should include an examination of how well team members work together in the production of the final text (Abrams, 2016). In my study, I took into account suggestions made by Abrams and Storch by encouraging collaborative interaction patterns throughout the project. After data collection was concluded, I also analysed the extent to which students were working collaboratively during their output production process.

2.5.3 Messaging apps (WhatsApp and LINE)

Messaging apps, such as WhatsApp, LINE, and WeChat, deliver electronic messages via the internet in real time. Originally built for smartphones, these apps can now be accessed from desktops and laptops. Unlike the older and cost-bearing form of messaging technology, SMS (Short Message Service), the newer apps are free of charge. Although these apps have slight differences in features, they largely offer the same service. Users can do more than just send a text message; for example, they can: create groups; send videos and images; and make voice calls. Messages and media sent on these apps are automatically saved so they can be viewed again at a later time. Users can also see the availability of others as the apps provide information on the online status or presence of intended recipients (Ashiyan & Salehi, 2016; Chu, Ng, Lai, & Lam, 2015; Hsieh, Wu, & Marek, 2017; Keating, 2016).

The next section focuses on WhatsApp and LINE because they are the two messaging apps which were used in the study. In Indonesia, WhatsApp and LINE are both very popular, with 40% and 33% penetration rate of the total population respectively, as compared to Facebook with a 41% penetration rate in 2017 (Statista, 2017). What distinguishes LINE from WhatsApp is its *stickers* (see figure 2.3) that are more elaborate

and expressive than the more traditional emoticons (Keating, 2016; Wang, 2016). LINE stickers 'bring more fun to group chats' (Keating, 2016: np), allow for 'rich emotional communication' (Wang, 2016: 456), and break down generational gaps between teachers and students (Bogart & Wichadee, 2015).

Figure 2.3 Examples of LINE stickers in Indonesian

Interaction on messaging apps can be described as a cross between oral and written communication, so from a social-cultural perspective, these apps can simulate a conversational environment. By nature, they offer an asynchronous communication tool, but they are often used for synchronous chats. Hence, they offer the benefits of both asynchronous and synchronous interaction. These affordances make messaging apps attractive for L2 educators (Lai, 2014). Since WhatsApp and LINE are already a part of most students' daily life, they can be integrated into L2 education without requiring extensive training on how to use the tool(s) (Hsieh et al., 2017; Keogh, 2017). Where learners are new to WhatsApp, they are able to quickly acquire the necessary basic skills to use the app by self-learning or peer tutorial (Lai, 2014).

In the field of L2 education, many studies have integrated WhatsApp and LINE in blended learning contexts and have focused on learners' views about the use the messaging apps for facilitating teaching and learning. Learners typically reported enjoyment in using WhatsApp; for example: undergraduates learning Mandarin in Malaysia (Kumar, Lian, & Vasudevan, 2016); Colombian undergraduates majoring in International Relations (Keogh, 2017); EFL students in Hong Kong (Chu et al., 2015; Lai, 2014) and Turkey (Avci & Adiguzel, 2017). Similarly, learners also showed mostly positive attitudes towards the use

of LINE for language learning purposes, e.g. sophomore English majors in Taiwan (Hsieh et al., 2017) and undergraduates enrolled in an English course in Thailand (Bogart & Wichadee, 2015).

WhatsApp and LINE were seen by students as effective, cheap, and practical tools for communicating with peers and teachers outside the classroom (Avci & Adiguzel, 2017; Bogart & Wichadee, 2015; Hsieh et al., 2017; Keogh, 2017; Kumar et al., 2016). Thus far, the majority of WhatsApp and LINE studies in L2 education have only used the written mode of communication (except Kumar et al., 2016). Learners felt that the written nature of the interaction on these apps increased their participation and enabled more thoughtful responses without the pressure for an immediate reply (Hsieh et al., 2017; Keogh, 2017). Learners were also of the opinion that group interaction on messaging apps increased confidence in the use of the L2 (Kumar et al., 2016), improved rapport (Keogh, 2017), and built greater linguistic abilities (Keogh, 2017; Kumar et al., 2016).
Even though learners' responses were generally positive, educators' attempts to integrate messaging apps in L2 education were not without challenges. A few students in Hsieh et al.'s study (2017) thought it was inappropriate to use LINE, their personal social media, as an online learning platform. In Kumar et al.'s study (2016), almost 30% of students only wanted to use WhatsApp as an additional tool for practising L2 outside the classroom but did not wish to replace the traditional learning methods that used textbooks. Keogh (2017: 102) pointed out that most of the discussions on WhatsApp were teacher-initiated and there was 'a lack of true dialogue' when learners interacted with each other. The idea of *learning anytime anywhere* commonly associated with messaging apps can also be problematic when students expect instant responses from their teachers (Bogart & Wichadee, 2015). Not surprisingly, teachers who used WhatsApp as a tool to communicate with their students considered students' high expectations of teacher availability to be one of the main challenges in using the app as a part of their teaching process (Bouhnik & Deshen, 2014).

Previous studies on the use of messaging apps in L2 education have also examined learning gains via pre- and post- tests. In a blended learning context, Ashiyan and Salehi (2016) asked 30 intermediate EFL learners in Iran to 'practice and repeat the selected taught collocations with native and non-native English speakers outside of the L2

classroom' (p. 119). Meanwhile, the same number of learners in the control group only learned the collocations from the face-to-face session. Ashiyan and Salehi did not provide details such as how learners in the experimental group gained access to native speakers, how long the experiment lasted, or what they meant exactly by practising and repeating collocations. They concluded that the experimental group significantly outperformed the control group in the post-test and that that messaging apps are influential instruments in L2 learning.

In another study, Lai (2014) also investigated vocabulary learning on WhatsApp. He conducted a quasi-experimental study involving 45 Hong Kongese 7th graders (aged 11-14). There were 24 students in the experimental group and 21 students in the control group. The experimental group, working in teams of three, was then encouraged to use WhatsApp on their mobile phone to practice the new vocabulary by making sentences and free chatting with their team mates and tutors (university volunteers hosting the weekly meetings). Unlike Ashiyan and Salehi's findings (2016), Lai (2014) found no significant difference in the mean gains in test scores between the experimental and control group. However, a closer look at the individual scores and detailed chat histories revealed a significant correlation between individual vocabulary gain and chat frequency. He also noted that some of the students in the experimental group were very passive. So, there was a possibility that within the experimental group, the inactive students' low scores heavily offset the active students' high scores, and thus significantly reduced their mean post-test scores. As students' performance in the study was not graded, there was no other incentive other than their own intrinsic motivation to improve their English. Therefore, Lai highlighted the importance of tutor engagement to keep the students active in order to avoid students dropping their activity levels quickly. Lai speculated that the differences between active and inactive students could be owing to factors such as language proficiency, preferred learning styles, and students' attitudes toward learning. Students who treated the WhatsApp platform as an electronic form of homework made fewer entries, and only when necessary or being asked to do so. By contrast, the active students who treated WhatsApp as a social environment made more attempts to use the L2 and chatted more. Lai suggested that as not all learners were ready to interact in English, they needed to be explicitly guided so they have the right mentality for L2 learning, i.e. 'to live the language instead of passively doing exercises' (p. 39). Of course,

learning gains (or lack thereof) could be influenced by many other factors, such as the tasks undertaken by learners, participation rate, or teacher instruction. Nevertheless, learners' generally positive attitudes towards the use of messaging apps highlight their potential to facilitate L2 learning.

2.5.4 Multiple technologies

Although there is an abundance of studies on the pedagogical exploitation of various Web 2.0 tools in L2 education, these typically focus on a single technology. Only a relatively small number have delved into how multiple technologies can be used to support teaching and learning in this particular field. For example, Elam and Nesbit (2012) utilised a variety of Web 2.0 tools in their study involving intermediate Korean EFL tourism students. They used *Ning* as a learning management system and embedded *VoiceThread, Jing*, and *Scribd* to execute project-based language learning. Elam and Nesbit's study (2012) mainly focused on analysing the impacts of PBL (which will be presented in Section 2.7). With regards to the tools, they remarked that 'since web 2.0 applications lend themselves nicely to producing projects and motivating students, then language acquisition through PBL with the use of Web 2.0 seems to be the most logical combination' (p. 125). With this in mind, the next section discusses project-based learning and its implementation in L2 education research.

2.6 Project-based learning (PBL)

2.6.1 Definition of PBL

There is no one universal definition of PBL because it has been designed and implemented in many ways. Scholars offer a variety of PBL definitions depending on which PBL features they choose to highlight. For example, Markham, Larmer, and Ravitz (2003: 4) defined PBL as

> a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed projects and tasks.

Authentic questions or *driving questions* are questions for students to explore and answer. It gives them a sense of purpose (Larmer & Mergendoller, 2010; Larmer, Mergendoller, & Boss, 2015). The use of driving questions to frame PBL activities is controversial. On the one hand, its proponents claim that such questions are the heart of PBL because, without them, students may not understand the purpose of undertaking the project in the first place (ibid.). However, Gao (2012) argues that the focus of PBL should not be limited to driving questions regardless of their authenticity. Students should be encouraged to produce outputs, such as oral presentation, reports, or even performance, rather than focusing merely on resolving questions. Several PBL studies are framed by driving questions (e.g. Simpson, 2011), but many others are not framed in this way (Barba, 2016; Chang, 2014; Dooly & Sadler, 2016; Elam & Nesbit, 2012). It should be noted that scholars who assert the importance of driving questions, e.g. Blumenfeld et al. (1991); Larmer & Mergendoller, (2010); Larmer et al. (2015), also consider publicly presented products or artefacts that address the driving question as an essential component of projects. Hence, it seems that the uniqueness of PBL lies in the creation of an end product (project artefact). This distinguishes PBL from other similar pedagogical approaches which are frequently implemented in L2 education, such as problem-based learning and task-based learning, which are discussed next.

2.6.2 PBL and other pedagogical approaches

2.6.2.1 Project- vs. problem-based learning

The two instructional methods share the same acronym (PBL), but in this thesis PBL only refers to project-based learning. They are often confused with each other because they also share the same principles of learning, such as learning by doing, student-centred learning (de Graaff & Kolmos, 2007; Gong, 2017) and are sometimes practised in combination (Gao, 2012; Gong, 2017). Nevertheless, the two are not identical (Gao, 2012). PBL is typically task-oriented; whether students are asked to address a specific problem or not, series of PBL activities usually culminate in a final product. By contrast, as the name suggested, problem-based learning generally starts with a problem, or series of problems, and finishes with corresponding solutions (Gao, 2012; Simpson, 2011).

2.6.2.2 PBL vs task-based learning (TBL)

PBL and TBL both stem from the same theoretical understanding that students learn the L2 by actively using it for purposeful communication (Ellis, 2003; Peterson, 2008). However, TBL has a more limited scope; learning activities in TBL are usually more teacher-directed with specified learning outcomes (Hanney & Savin-Baden, 2013) and tasks are usually completed in one class (Peterson, 2008). This contrasts with projects that are not focused on specific language targets (Cusen, 2013; Haines, 1989), consist of a series of connected tasks and are generally longer in time and implementation (Peterson, 2008). Examples of projects include a presentation, a fundraiser, an advertisement, or a web-based project. All of these require the completion of smaller tasks which involve planning, long term objectives, and students' autonomous decisions (Peterson, 2008). TBL tasks, for example spotting-the-difference tasks, jigsaw tasks, and decision making tasks (Lai & Li, 2011), use 'a predefined set of skills, activities or interactions to address a specified set of learning outcomes' (Hanney & Savin-Baden, 2013: 8).

PBL has also has different characteristics from other commonly used L2 teaching approaches. The next section outlines the principal features of PBL.

2.6.3 Principal features of PBL

The features of PBL, which are based on constructivism and socio-constructivism, are largely consistent in the literature. Key features of PBL include: authenticity; teachers as facilitators; student-centred learning; formative assessment; reflection; public artefacts (Harris, 2014; Larmer et al., 2015; Sidman-Taveau, 2005; Simpson, 2011; Stoller, 1997).

2.6.3.1 Authenticity

In PBL, students engage in practical activities which mimic real-life scenarios; for example, by working in groups and using sources other than textbooks in their project (e.g. the internet, local community) (Gong, 2017; Harris, 2014; Simpson, 2011). If the situation allows, students can even make an impact outside the classroom (Harris, 2014). In Fried-Booth's study (1982), for example, a group of foreign students learning English in Bath were asked to produce an artefact that would benefit disabled tourists visiting the city. Research for the project took the students to places outside the classroom, e.g. shops,

museums, hotels. Students were exposed to a range of authentic experiences that they had to deal with, e.g. articulating politeness, firmness, and eventually withdrawal when encountering a suspicious hotel receptionist. They accumulated various materials, such as maps and notes, which contributed to the creation of their artefact called *The Good Wheelchair Guide*. The guide was then printed and distributed to various media and organisations, e.g. local newspapers, radio stations, and tourist offices. Thus, unlike in traditional classrooms where tasks are often completed for the purpose of being graded by a teacher, in Fried-Booth's study (1982), students connected to real world situations and created a product that might truly help Bath's disabled tourists.

2.6.3.2 Teachers as facilitators

The role of PBL teachers requires a shift from being knowledge providers to being inquiry facilitators. The facilitators' job is complex. They must be content advisors, if not the content experts, so that they could guide students in their exploration, innovation, and synthesis effectively, whilst at the same time making sure they do not lead didactically, nor completely relinquish classroom management (Gao, 2012; Harris, 2014; Lee, Blackwell, Drake, & Moran, 2013; Simpson, 2011). They also need to ensure projects are fuelled by students' own interests and motivations, rather than those of the teacher (Clark, 2006). They not only need to help students complete the project, but also promote decision-making and reflections so that students can gradually become self-directed learners (Harris, 2014; Simpson, 2011). Facilitators assist students through: coaching (e.g. generating interests, controlling frustration or anxiety); guiding (e.g. separating tasks into manageable chunks); modelling (e.g. showing idealised models, demonstrating strategies); and managing (e.g. helping students to organise group work, initiating discussion, or mediating between students) (Sidman-Taveau, 2005: 21). Furthermore, teachers monitor progress, give feedback, and assess learning (Simpson, 2011). Teachers play a critical role in helping students accomplish the project successfully because 'even well-designed projects cannot sustain student motivation themselves' (Blumenfeld et al., 1991: 381). Facilitating PBL can therefore be a very demanding job. According to Bradley-Levine et al. (2010), it requires more of almost everything, e.g. '*more* time to plan, *more* day-to-day problem solving… *more* effort to authentically assess student learning…' (p. 19-20). Teachers may struggle to meet individual student's needs and waver between

acting as a facilitator and an expert/authority figure (Bradley-Levine et al., 2010; Clark, 2006). Sidman-Taveau (2005) asserts that any direct instruction by teachers should only be given in response to students' queries or demonstration of need rather than rigidly scheduled. However, the extent to which teachers are comfortable with transferring the decision making process to students will influence the quality of collaboration in projects (Harris, 2014).

2.6.3.3 Student-centred learning

PBL transforms the roles of students by giving them voice and choice to control their learning from the beginning until the end of their project. Being involved and able to use their judgment in all aspects of projects, e.g. planning, managing, decision making, and evaluating learning, creates a sense of ownership, increases motivation, and fosters lifelong learning (Harris, 2014; Larmer et al., 2015; Simpson, 2011). Although student autonomy is a hallmark of PBL, Harris (2014) stresses that the degree to which students' voice and choice is expressed is not absolute and depends on many factors, e.g. the length and scope of the project, students' ages, and their experience with PBL.

The varying degrees of teachers' control and students' voice and choice can be observed in three different types of projects (Henry, 1994):

- *Structured*, i.e. the teacher decides on the topic and specifies data collection and analysis methods (with the students having some options);
- *Semi-structured*, i.e. the teacher and students together define and organise the project, giving students more responsibility than in structured projects;
- *Unstructured*, i.e. the students largely define the projects themselves.

2.6.3.4 Formative assessment

PBL scholars generally view formative assessment, which is conducted during the project and looks forward to the next process of learning, to be more important than summative assessment, which is conducted after the project is completed and focuses on what has been achieved. Teachers' formative evaluation, which bridges the gap between what students know and what they need to know, helps students produce high quality work. At the same time, students should also be taught and asked to give and receive constructive peer feedback, e.g. by offering suggestions for improvement or support. Ability to give

constructive feedback can enhance students' confidence in assessing their own work (Larmer et al., 2015; Sidman-Taveau, 2005).

2.6.3.5 Reflection

Throughout a project, students should be encouraged to reflect on what, how, and why they are learning, so that they can become more effective and autonomous learners. Reflection can be done informally, as a part of classroom culture and interaction, or formally and explicitly, such as by using a journal or rubric. Teachers can also provide prompts to help learners reflect as a part of quality check during the project, or after the project is finished (Bell, 2010; Gong, 2017; Harris, 2014; Larmer et al., 2015; Sidman-Taveau, 2005).

2.6.3.6 Public artefacts

Artefacts produced in PBL, which represent students' new knowledge, are presented publicly in various ways. Students may be more motivated to increase their performance, compared to traditional classroom projects that are often viewed only by the teacher (Clark, 2017). Sharing artefacts publicly also creates a 'learning community' where students and teachers can discuss learning, performance standards, and how to improve them (Larmer et al., 2015).

In addition to the six key features described above, there are two more essential elements in PBL, namely: driving questions (Blumenfeld et al., 1991; Larmer et al., 2015), and cooperation and/or collaboration (Gao, 2012; Harris, 2014; Simpson, 2011). Nevertheless, experts' opinions on the extent to which these two elements are crucial in PBL seem to differ, and this is discussed next.

2.6.3.7 Driving questions

Section 2.6.1 has pointed out how scholars disagree about whether driving questions should be regarded as a principal feature of PBL. A driving question sets the context for PBL. It enables students to understand why they carry out a project and prepare them for investigations and activities in the project. The question can be set by the teacher, or even negotiated with the students. Most importantly, the question should be open-

ended, clear, challenging, and correspond to what teachers want students to learn (Larmer et al., 2015; New South Wales Government, n.d.). Larmer (2014) argues that the completion of any project involves solving a problem. Even if a project does not seem to have a driving question, e.g. asking students to build a new play structure for a playground, students would still need to solve a problem, i.e. how to build it properly so that the playground users' needs and wants are met whilst also meeting building safety standards.

2.6.3.8 Cooperation and/or collaboration

Although a project task can sometimes be assigned to individual learners (e.g. Barba, 2016)), students are usually required to work on the project in groups (Ballantyne, 2013; Chang, 2014; Cusen, 2013; Eguchi & Eguchi, 2006; Elam & Nesbit, 2012; Simpson, 2011; Zhang, Peng, & Hung, 2009). Group work is a broad term; it can be done cooperatively, collaboratively, or both. *Cooperation* entails 'effective division of labour', while *collaboration* 'requires participants to solve a problem or perform a task together' (Helle, Tynjälä, & Olkinuora, 2006: 296). Scholars generally use the generic term *group work*, so it is unclear if they actually mean cooperation or collaboration. In her thesis Simpson (2011) discusses the similarities and differences between the two terms, but she decides to use the terms interchangeably because 'they are both learning approaches that direct students to work together under the guidance of a teacher to achieve a common goal' (p. 56). Others, however, stress the importance of collaboration in PBL, albeit without specifically comparing it with cooperation (Fried-Booth, 1982; Harris, 2014; Sidman-Taveau, 2005). Although the generic term *group work* is generally accepted in PBL, I believe it is important to note the distinction between cooperation and collaboration. As discussed in Section 2.5.2 SLA research suggests that a *collaboration* interaction pattern whereby students work together, contribute to the task and engage with each other's ideas, is the type of student interaction conducive to language learning (Storch, 2002, 2012).

PBL includes several basic features and its implementation may require shifts away from traditional educational practice (i.e. a direct transmission pedagogy). The different stages involved in the implementation of PBL are described in the next section.

2.6.4 The implementation of PBL

Educators offer various systematic, but flexible frameworks to help teachers and students shape and implement PBL. Drawing on from the literature (Fried-Booth, 2002; Gong, 2017; Kalabzová, 2015; New South Wales Government, n.d.; Simpson, 2011), Figure 2.4 summarises how PBL can be implemented in three steps.

Figure 2.4 The implementation of PBL in three steps

Starting the project

At this stage, the teacher (and sometimes the students) select the topic, content, and scope of the project. The teacher may also introduce the driving question. Students' groups are formed, final artefacts are agreed on, and timetable and working plans are outlined.

Conducting the project

This stage includes the bulk of PBL tasks and activities. Students make inquiries, do research, carry out tasks based on the project, and give feedback to each other. The teacher supports this process, e.g. by coaching, guiding, modelling, conducting formative assessment, and if necessary, modifying the project in response to the 'real teaching situation and time limitations to ensure the completion of projects' (Gong, 2017: 23). Finished artefacts are then displayed to the public.

Assessing the project

At the end of a project, summative assessment is usually conducted to evaluate the processes and efforts (such as participation) that lead to the final project output as well as the learning outcomes. This type of assessment, which may include self-reflection, group-reflection, and evaluation by the teacher and/or external audience, provides teachers with reference points for improving future projects, and helps students to self-regulate their learning. In this study, the summative assessment was conducted by

assessing learners' participation and contribution as well as through interviews with individual learners in order to find out their opinions about various aspects of the project.

2.7 Project-based language learning (PBLL)

2.7.1 Definition of PBLL

When implemented in L2 education, PBL is called project-based language learning (PBLL) (Barba, 2016; Gibbes & Carson, 2014), and also often used interchangeably with *project work* (Eyring, 1997; Fried-Booth, 2002). Barba (2016: 60) defines PBLL as 'assignments, tasks and activities that segue into a main output and which help the students work on different competences simultaneously'. Meanwhile, according to Fried-Booth's evaluation (2002: 6), project work is

> student-centered and driven by the need to create an end-product. However, it is the route to achieving this end-product that makes project work so worthwhile. The route to achieving this end-product brings opportunities for students to develop their confidence and to work together in a real-world environment by collaborating on a task.

Project work focuses on themes or topics rather than specific language targets and requires students to decide on working methods, timetable and the resulting artefact. Without prescribed language targets, project work allows students to recycle known language and practise skills in a natural context (Haines, 1989).

2.7.2 Previous research on the implementation of PBLL in various contexts

PBLL can potentially provide ideal conditions for L2 education since doing projects allows learners to engage in authentic tasks that require them to use integrated skills, such as read to write, write to speak, listen to write, which induce meaningful language use and the essential recycling of linguistic items such as grammar and vocabulary (Dooly & Masats, 2011). It has been widely implemented in L2 classrooms in face-to-face, blended, and more recently, online settings.

Studies on various aspects of PBLL have yielded mixed results. On the one hand, studies on the outcomes of PBLL generally show a number of benefits students gain due to their experience with project work. PBLL has been shown to improve different aspects of language skills: speaking skills (Gibbes & Carson, 2014; Kovalyova, Soboleva, & Kerimkulov, 2016; Simpson, 2011); listening skills (Kovalyova et al., 2016; Simpson, 2011); reading skills (Kovalyova et al., 2016; Liu, Lou, Shih, Meng, & Lee, 2010; Simpson, 2011); and writing skills (Barba, 2016; Liu et al., 2010; Simpson, 2011).

PBLL also helps students to: increase their confidence in using the target language (Liyana et al., 2015; Sidman-Taveau, 2005; Simpson, 2011); expand their vocabulary (Avci & Adiguzel, 2017; Gibbes & Carson, 2014; Kovalyova et al., 2016); and develop pragmatic competence, such as awareness of the differences between formal and informal language (Avci & Adiguzel, 2017).

In addition to L2 benefits, PBLL enables students to develop an array of other skills. For example: collaborative skills (Avci & Adiguzel, 2017; Ballantyne, 2013; Elam & Nesbit, 2012; Liu et al., 2010; Liyana et al., 2015); presentation skills (Liyana et al., 2015; Miller, Hafner, & Fun, 2012; Simpson, 2011); problem solving skills (Chang, 2014; Kettanun, 2015; Liu et al., 2010); technological/IT skills (Chang, 2014; Liu et al., 2010; Miller et al., 2012; Zhang et al., 2009); interpersonal skills (Avci & Adiguzel, 2017; Kettanun, 2015); and time management skills (Avci & Adiguzel, 2017).

Other benefits associated with PBLL include: a stronger work ethic (Kettanun, 2015); academic / content knowledge gains (Chang, 2014; Kovalyova et al., 2016); the expression of creativity (Ballantyne, 2013; Barba, 2016; Kettanun, 2015); development of higher-order thinking skills through activities such as planning, analysing, researching, and synthesising ideas (Kettanun, 2015; Simpson, 2011); the development of autonomous learning where learners take responsibility for their own learning (Avci & Adiguzel, 2017; Liu et al., 2010; Sidman-Taveau, 2005); and increased motivation (Barba, 2016; Sidman-Taveau, 2005). PBLL may even lead to ‘an intense motivational drive sustained over a period of time’ that is over and above the ongoing motivation of a good student (Ibrahim & Al-Hoorie, 2019: 51). This phenomenon is recently labelled Directed Motivational Current (DMC) in the literature (cf. Dörnyei, Henry, & Muir, 2016; Muir, 2016, 2019). Such

burst of motivational energy can be experienced not only on an individual level, but also collectively as a group of learners (Muir, 2016, 2019). DMCs involve

> a prolonged process of engagement in a *series* of tasks which are not necessarily enjoyable in and of themselves – although of course some may be – but are rewarding chiefly because *they transport an individual toward a highly valued end* (Dörnyei et al., 2016: 5, original emphasis).

Numerous studies have shown students' favourable attitudes towards their involvement in PBLL. For example, English language learners in Turkey (Guven & Valais, 2014), Korea (Elam & Nesbit, 2012), Thailand (Ballantyne, 2013), Russia (Kovalyova et al., 2016), and immigrant English language learners in the USA (Sidman-Taveau, 2005).

Nevertheless, the implementation of PBLL also comes with several challenges which could reduce its pedagogical effectiveness. First, in goal-oriented projects, students may prioritise task completion over the use of target language. So, Japanese sophomores with low English proficiency in Eguchi and Eguchi's study (2006) rarely used the target language despite the teacher's English directions, model conversations, and English handouts. They used Japanese to communicate with each other and the teacher. Some even insisted that the teacher answer their questions in Japanese. The lack of target language use was also observed in Ballantyne's study (2013) involving English for Academic Purposes (proficiency level unknown) in Thailand, and Chang's (2014) study involving intermediate-level Applied English students in Taiwan. Consequently, at the end of their project, the majority of students in Eguchi and Eguchi's study were unsure if their English ability had improved. Ballantyne (2013) pointed out several non-L2 benefits, e.g. problem-solving skills, creativity, and affective benefits, but made no mention of L2 development. Chang (2014) also concluded that the actual extent of students' improvement in English remained uncertain. Students' extensive use of L1 could be influenced by a lack of confidence in using English, insufficient English ability, or simply preference to use L1 (Chang, 2014). Meanwhile, Eguchi and Eguchi (2006) identified the lack of contact with English speakers in EFL countries as another major influence on students' use of L1 in projects. When their students went outside the classroom to find information for their magazine project, the people they met, e.g. their professors, friends, library staff, all spoke Japanese. This meant that students did not get to practise using

English. Eguchi and Eguchi suggested that the incorporation of IT technology into a PBLL course might help address this issue and provide students with more exposure and opportunities to use English in EFL countries.

Second, collaboration, a key component in PBLL may be challenging for some learners. PBL teachers in Peterson's study (2008) felt that interaction between students in a group can be problematic due to cultural or personality differences, and Malaysian EFL learners in Liyana et al.'s study (2015) had difficulty in reaching a consensus. Some learners in Gibbes and Carson's study (2014) encountered group-related problems, such as unequal workload, unproductive groups, and the desire for working individually. Gibbes and Carson suggested that these problems could be caused by differing levels of commitment to the project, or a lack of experience in the proper functioning as a group.

Lastly, students' expectations, cultural background and previous learning experience may also interfere with PBLL. For example, Turkish EFL learners in Guven and Valais' study (2014) liked working collaboratively to plan, produce and present an advertisement campaign, but many of them felt uneasy about peer and/or self-assessment. Guven and Valais supposed that this was because Turkish learners may not be familiar with group formative assessment and were more accustomed to multiple-choice examinations. Nevertheless, students' reluctance to learn how to identify or fix their shortfalls in this way may create an obstacle to reaching learner autonomy.

Project-based instruction is radically different from the traditional educational ideas and teacher-centred practices common in many Asian countries. From a teacher's point of view, Simpson (2011), a teacher-researcher implementing PBLL in Thailand, confirms that it was hard to change her students' ideas about their role and outlook on learning because they had been accustomed to 'the easy life of passive learning' (p. 264), especially in the early stages of the project. Having to provide an extensive amount of time and effort to motivate, support, and nurture her students, Simpson (2011) found the increased teacher's workload in PBLL 'very stressful'.

From the students' viewpoint, PBLL may be at odds with their views on what good education should involve; thus they may resist PBLL activities. Beckett (2005) investigated

ESL students' views on project-based instruction as a pedagogical activity for socialisation into academic language and literacy. She found that 57% of the 73 ESL Canadian high school students, who originated from Taiwan, Hong Kong, and China, reacted negatively to PBLL because they felt it was more important to learn basic knowledge from teachers and textbooks, which was viewed as lacking when doing projects. They also deemed PBLL, which emphasises active learning, to be too difficult or too demanding. In Gibbes and Carson's study (2014), 191 undergraduates studying various language courses at a college in Ireland, the majority of whom were visiting European students, were asked to work in groups and select their own project from a menu of possible projects according to their interests and courses: a debate on a controversial issue; an academic seminar to be delivered in class; a theatre project presenting a new or rewritten piece of drama; a website design project; or a tourist brochure project (p. 175). Only 24% students in Gibbes and Carson's study reported negative experiences of PBLL, which is a better figure compared to Beckett's study (2005). This indicated that cultural background could have an effect on students' acceptance towards PBLL. However, negative comments made by (mostly European) students in Gibbes and Carson's study also indicated a desire for the more traditional mode of language teaching, i.e. isolated grammar-focused tuition. As in Beckett's study, participants in Gibbes and Carson's study also complained about the difficulty of project work and that 'a lot of time and effort was spent with little reward' (p. 178). Meanwhile, Thai undergraduates in Ballantyne's (2013) study had positive experiences with PBLL, citing learning enjoyment and various non-L2 benefits such as problem-solving and cognitive skills. However, Ballantyne pointed out that the most serious issue in implementing PBLL in her study was students' unease at their teacher's new role as a facilitator instead of a source of knowledge.

Online course delivery may exacerbate the issues students face in PBLL. In an online course delivered through an LMS, Taiwanese EFL learners were required to investigate and report on a popular social topic of their choice (Zhang et al., 2009). Working in groups, students were asked to share their drafts and provide constructive feedback to other groups. The teacher provided formative feedback on students' sub-projects, but only the final artefact was graded, with group members receiving the same grade for the group project. The majority of students found the combination of PBLL, collaborative learning, and online learning very challenging. They tended to cooperate rather than

collaborate, dividing tasks into individual sections and have one member assemble everything together at the end, with hardly any feedback given to others' portions of the task. Zhang et al. (2009) pointed out that the competitive Taiwanese educational system may have led to the reluctance of some students to collaborate with other groups. These students viewed learning as a competition for the best grade. Although they did not mind sharing information with their own group, they strenuously objected to inter-group collaborations because they were concerned that their draft could be used as a model by other groups, which could potentially enable other groups to obtain better grades. Many were confused about the teacher's role as a facilitator, guide and moderator. The distance created in the online environment added anxiety to students who were used to face-to-face interactions with their teachers. Students continually sought confirmation from the teacher before moving forward with their task, even though all necessary information and materials were made available online. Many wanted a more traditional way of learning; that is they expected to be taught first and thereafter do the project as a practice. All students felt they had spent more time on this 6-week project than a traditional 13-week course. Zang et al. (2009) concluded that the demanding nature of PBLL caused students' reluctance to participate in similar experience in the future, and that high achieving students could not see the merits of developing PBLL's higher-order thinking skills because these are not usually addressed in Taiwanese examinations. Zhang et al. (2009) maintained that these problems were due to the incompatibility of Chinese educational culture and Western psychological assumptions in PBLL.

It is difficult to ascertain the extent to which cultural background, students' expectations, previous learning experience, and online course delivery mode affect the implementation of PBLL. Similar to Zhang et al.'s study (2009), Liu et al.'s study (2010) also involved Taiwanese students in an online PBLL. Students in this study used their free time to participate in making *The Beer King Website Homepage*, designing marketing posters for the beer via an online learning environment, and presenting their posters at home and at school. The only face-to-face meeting between students and teachers took place in the form of three visits to a brewery for research purposes. Unlike in Zhang et al.'s study, students in this study viewed the online medium positively as it allowed team members to interact regularly and consequently maximised learning experiences.

One factor that might explain these differing findings could be that the project in Zhang et al.'s study was assessed as a part of the curriculum, hence resulting in competition for higher marks between participants. Meanwhile, participation in Liu et al.'s study did not contribute to students' grade and was on a voluntary basis. This had two implications: (a) students were more relaxed and did not feel they needed to compete against each other, and (b) the fact that these learners chose to spend their free time taking part in the project indicated their already high motivation level, an attribute known to positively affect learning. Furthermore, unlike students in Zhang et al.'s study who communicated with their teacher solely online, students in Liu et al.'s study had the occasional face-to-face communication with their teacher. This might have given them a better sense of security or familiarity that was missing in Zhang et al.'s study.

More recently, educators have embraced Web 2.0 tools as a participatory medium which opens the door for students' collaboration in PBLL. Elam and Nesbit (2012) scrutinised the impact of *Ning, VoiceThread, Jing* and *Scribd* on collaboration and motivation amongst 22 low-intermediate Korean EFL tourism students in a blended course. Results were deemed inconclusive due to inadequate sampling, weak data collection tools and the low number of participants, but most learners reflected positively on their PBLL experience. Students felt they had improved their ability to work collaboratively with others and increased their motivation. Nevertheless, Elam and Nesbit (2012) wondered if this motivation was due to PBLL itself or the large number of points assigned to the project, which significantly affected student overall grades.

To sum up, PBLL has the potential to enhance L2 education, but limiting factors such as the lack of L2 use and students' cultural background, may impede effective implementation of the pedagogy. As such, in my study, learners are encouraged to use L2 (although the use of L1 is not prohibited) and culture is given consideration during the interpretation of data. The next section reviews the final element of my study: non-formal education.

2.8 Non-formal education

Education can take many forms. In the literature, however, it is often divided into three categories: formal; non-formal, and informal. Together they cover *lifewide* (taking place in diverse settings and situations) and *lifelong* (undertaken throughout life) learning (Norqvist & Leffler, 2017). The focus of this thesis is non-formal education.

2.8.1 Definition of non-formal education

Before discussing non-formal education in more detail, it should be noted that some of the literature differentiates between *education* and *learning*. For example, Smith (1999, cited in Norqvist & Leffler, 2017: 238) states that 'learning is a process that happens all the time; education involves intention and commitment'. Nevertheless, many scholars have blurred the boundary between the two terms. In the discourse of lifelong learning, non-formal learning is more frequently used than non-formal education, but 'the area of discussion is exactly the same' (Rogers, 2004: 2). For the purpose of this thesis*, non-formal education* and *non-formal learning* are used interchangeably.

The distinctions between formal, non-formal, and informal education are complex and regularly debated (Lafraya, 2011; Werquin, 2010). More specifically, the term *non-formal education*, first used by Coombs and Ahmed (1974), is difficult to define because it is adaptable to diverse educational needs and takes a wide variety of approaches (Romi & Schmida, 2009; Werquin, 2010). Some argue that the three conceptualisations of learning need not be seen as discrete categories as the borders between them are permeable (Lafraya, 2011; Rogers, 2004; Werquin, 2010). Nevertheless, non-formal education is often misunderstood as the opposite of formal education (Lafraya, 2011), or confused with informal learning (Fordham, 1993). Hence, the definitions below, which deliberately contrast the three types of education, are provided for the purpose of clarifying how non-formal education is operationalised in my study. It should be noted, however, that some scholars may operationalise the terms slightly differently (cf. Chakowa, 2018).

Table 2.3 Formal, non-formal, and informal education

Formal education	Non-formal education	Informal education

This is education of a planned and structured nature. It typically leads to certification, and is intentional from the learners' point of view (European Commission, 2001; Lafraya, 2011: 8). Examples include compulsory schooling and courses at training institutes (Lafraya, 2011; Werquin, 2010).	'This is education which takes place outside the sphere of compulsory schooling, but where there is educational intent and planning of teaching/learning activities' (Lafraya, 2011: 8). It does not typically lead to certification, but it is structured (in terms of objectives, time or support) (European Commission, 2001). So it usually involves some kind of guidance from professional learning facilitators (Lafraya, 2011), such as mentors (Mok, 2011) or teachers (Javrh, 2014). It is intentional (European Commission, 2001) and voluntary (Mok, 2011; Romi & Schmida, 2009) from the learners' perspectives. Examples include youth clubs (Norqvist & Leffler, 2017), vocational programmes for the unemployed (Latchem, 2014), and extra-curricular activities, even if they take place in schools (Mok, 2011).	This is an education which results from 'daily life activities related to work, family or leisure' (European Commission, 2001: 32). It is not organised or structured in terms of objectives, time or learning support. It may be intentional but in most cases, it is unintentional from the learners' perspectives (ibid). Examples include watching films, reading web pages in L2 (Van Marsenille, 2015), as well as storytelling and teaching children manners and etiquettes (Rogoff, Callanan, Gutiérrez, & Erickson, 2016).

2.8.2 Features of non-formal education

Learning in non-formal education is *organised*, *supported, intentional, and voluntary.* With regards to the first two features, teachers play a vital role in non-formal education practices. The BeLL project – the first European comparative study in the field of non-formal adult education, involving researchers from 10 European countries ran from 2011 to 2014. Its findings included that *teaching methods, teacher as a person*, *and individual support and guidance*, were considered by respondents to be some of the most important factors[2] that contributed to changes learners experienced as a result of non-formal education (Javrh, 2014). Learning in non-formal education is intentional since individuals who engage in this form of education do it for their own reasons (Tudor, 2013). It is also voluntary as non-formal learners participate out of their own choice and free will, usually during their leisure time (Romi & Schmida, 2009).

2 The top six factors for change cited by respondents as a consequence of non-formal learning in the BeLL project (in descending order): the fact that I was able to learn new things; the content/theme of the course; teaching methods; teacher as a person; my opportunity to be an active member of the group; individual support and guidance (Javrh, 2014: 154).

In relation to intentional and voluntary learning, two concepts are paticularly relevant for this study: motivation and free (leisure) time. Motivation can be used for predicting achievement and achievement-related behaviours (Walker, Greene, & Mansell, 2006). Motivation can be intrinsic or extrinsic (Ryan & Deci, 2000). The former originates from within the individual when they do an activity that is inherently interesting or enjoyable; the latter pertains to doing an activity in order to attain (e.g. money, grades) or avoid something outside the self (e.g. punishment). Intrinsic motivation is the blueprint for self-determined behaviour and should be cultivated as it generally results in high-quality learning (Ryan & Deci, 2000). The fact that non-formal education does not generally offer tangible rewards (or punishment) makes it even more important to enhance intrinsic motivation. Contextual conditions can help individuals become more self-determined by allowing the fulfillment of three basic psychological needs: autonomy (freedom of will), competence (control or mastery over an activity), and relatedness (a sense of belonging and connection to others) (Agne & Robinson, 2014; Ryan & Deci, 2000). Autonomy, competence and relatedness are constructs which are also promoted in project-based learning.

Non-formal learning usually takes place within one's free time (Romi & Schmida, 2009). Not surprisingly, a person's engagement in non-formal educational practices depends on their perceived amount of available free time (Thoidis & Pnevmatikos, 2014). A survey across OECD (Organisation for Economic Co-operation and Development) countries showed that a lack of free time owing to work or family was the main barrier to participation in non-formal learning activities (OECD, 2014). When free time is available, individuals may prefer to dedicate it to activities which enable relaxation and entertainment, rather than continuing education (Thoidis & Pnevmatikos, 2014). Therefore, one of the challenges for non-formal education providers is to create programmes and teaching methods that include characteristics of a 'leisure' activity, such as pleasure, fulfilment and satisfaction (ibid.).

2.8.3 The value of non-formal education

The importance of gaining knowledge outside of formal schooling has been recognised since ancient times (Romi & Schmida, 2009; Vidmar, 2014) and remains important in modern times. Formal education alone cannot respond to the challenges of society, such as unemployment, uncertain future, job insecurity, more ambitious life goals (Thoidis & Pnevmatikos, 2014) and inequitable access to educational opportunity that could create social unrest and impede individuals' ability to unlock and fulfil their potential, which is vital for development (Latchem, 2014). The Council of Europe (1999) considers non-formal education to be a necessary supplement to formal education and an integral part of lifelong learning processes. With its flexible modes of delivery and learning, non-formal education can target learners who are marginalised because of their poverty, geographical location, gender bias, or disability (UNESCO, 2016; Yasunaga, 2014). Making non-formal education accessible for all facilitates active citizenship, prevents social exclusion, and helps to build a democratic society (Council of Europe, 1999). These ideals fit well with Dewey's rejection of the dualistic philosophy of education which maintains the social division of classes (Murano, 2016). In practice, the BeLL project showed that participants with the lowest level of education benefited the most from non-formal education (Manninen et al., 2014). The dominant benefits, perceived by participants regardless of their educational background, included a wider social network, improved mental well-being, increased self-efficacy, and positive changes in educational experience (joy of learning, motivation to learn, sense of achievement).

The Council of Europe (1999) asserts that non-formal education should be promoted and made accessible for all. However, data from OECD countries indicate that people with lower educational attainment tend to participate less in non-formal education, creating a vicious circle of low educational level and low skills proficiency (OECD, 2014). Information and communication technologies (ICTs) are seen as having great potential for addressing this issue and improving access to non-formal education and promoting inclusion (UNESCO, 2016). The next section briefly covers the use of technology in non-formal education.

2.8.4 Technology in non-formal education

Years before ICTs became ubiquitous, the Council of Europe (1999) was already encouraging the application of what they termed *new information technologies* to non-formal education. Since then, ICTs have been seen as an effective way of promoting lifelong learning in various contexts (Aguayo & Eames, 2017; Latchem, 2014; Romi & Schmida, 2009).

Romi, Hansenson, and Hansenson (2002) compared the attitudes of Israeli dropout adolescents towards computer-assisted learning to attitudes of normative youths. Of the 60 male participants, 30 attended a regular junior-high school, and the remaining 30 were dropout students who attended a basic literacy skills program for two one-hour session a week. Romi et al. (2002) found that, compared to the normative youths, the dropout adolescents showed a more positive attitude toward the usefulness of computers in enhancing their comprehension. Based on this he asserted that the use of computers among this population has the capability to equalise education.

More recent research has advocated for the use and/or integration of ICTs, particularly Web 2.0 technologies, in non-formal education. For instance, in a study conducted between 2009 and 2011, Aguayo and Eames (2017) created a website called *Lanalhue Sustentable.* This could be considered Web 1.0 due to its lack of interactivity, and aimed to promote ecological literacy and sustainable living practices amongst some of the community members around the deteriorating Lanalhue Lake in Chile. Aguayo and Eames found that the website promoted deep and transformative[3] types of learning, i.e. 'the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience in order to guide future action' (Mezirow, 1996: 162). Aguayo and Eames concluded that participants acquired some degree of ecological literacy from information provided on the website. Nevertheless, they also found that inadequate post-learning reinforcement had resulted in less reported action on ecological issues than they had hoped. They proposed that social media, which was not well-developed at the time, could have potentially allowed that reinforcement to occur. The

3 Transformative learning is often contrasted to transmissive learning, i.e. 'a learning process where knowledge, ideas and/or skills are learnt through purposeful demonstration and guidance ("transmission")' (Aguayo & Eames, 2017: 875).

use of social media is now a common occurrence in non-formal education. Participants in Norqvist and Leffler's study (2017), for example, used blogs and Facebook (as well as the more traditional method of documentation, such as notebooks) to reflect on their non-formal learning experience in the European Voluntary Service. Social media are viewed as practical documentation tools to make learning visible by the decision takers and trainers in the same study.

In developing countries, ICTs have also been used in various non-formal education initiatives, such as Project Africa in Kenya (Hallberg & Wafula, 2010) and the Granny Cloud project in India (Wakefield, 2012). Still, issues such as finance (e.g. staff training cost) and infrastructure (e.g. the unavailability of electronic media in some areas) can derail the full integration of ICTs into non-formal education (Situma, 2015). Furthermore, there is a concern that the intention to encourage lifelong learning with ICTs may actually widen the digital divide between those with access and skills to use ICT and those without (Woolley & Booker, 2002). Considering that one of the impetuses for this research was challenging unequal access to education, the issue of a potential digital divide was a concern. Nevertheless, time and resource limitations in a PhD study meant I had to select research participants in a pragmatic manner. As a consequence the participants in this study were university students with access to digital technologies (and some form of English education). However, my research findings could be stepping stones to future research, which may then reach out to participants from a more disadvantaged background, who could potentially reap the most benefit from participating in online non-formal PBLL.

2.8.5 L2 teaching and learning in non-formal education

There is a dearth of published research in the area of non-formal L2 education. Chakowa's study (2018) is one of the few that attempts to fill this gap. It should be noted that Chakowa used the term *informal* learning to describe her research on the basis that students' performance in her study was not graded. However, the existence of structured tasks, coupled with extensive teacher support and feedback (as discussed next), indicated that her research was actually closer to *non-formal* rather than *informal* L2 education.

Chakowa not only investigated non-formal L2 education, she also integrated multiple Web 2.0 tools in her study.

As a teacher-researcher, Chakowa (2018) created a wiki called French Plus to help beginner learners of French, at an Australian university, consolidate the learning of L2. Chakowa embedded four additional Web 2.0 tools on the wiki, namely: *VoiceThread*, *Padlet*, *Voki*, and *Quizlet*. The study ran for two semesters and involved a total of 60 volunteer students, whose involvement in French Plus was not graded. Students were given a minimum number of activities to complete per week. There were a variety of tasks, e.g. creating avatars to simulate various roles, and creating their own flashcards to contribute to a collective repository. At the end of each semester, those who met the participation requirement were given a gift voucher and a participation certificate. Participants from semester 1 were encouraged to continue into semester 2. Similar to some of the Facebook studies discussed earlier in this chapter, Chakowa noted fluctuations in students' participation in French Plus. In both semesters, participation was high in the first three weeks, dropped afterwards, and dropped further after week nine, once the target to obtain the promised rewards was reached. This (again) indicated that rewards played some part in students' participation. The number of participants in semester 2 (23% of the total students enrolled in the French course) was slightly lower than in semester 1 (25% of the total students enrolled in the course); Chakowa reasoned that students were better able to judge whether they could commit to French Plus after the first semester. Thirteen students decided to continue using French Plus in semester 2. All of these 'acted as driving force' (Chakowa, 2018: np) for the new members, suggesting students have become more resilient in L2 learning and enjoyed the activities offered on the platform. Students valued the voluntary and non-graded nature of their involvement with French Plus, but some suggested stricter requirements might have motivated them to try harder. Students enjoyed the opportunity to use L2 and interact with others with no time or place constraints. Nevertheless, Chakowa pointed out the difficulty in maintaining students' interest in non-graded L2 learning activities. She concluded that teachers need to find strategies to keep students motivated, in addition to providing them with a variety of technologies and activities.

2.9 Summary and limitations of the reviewed literature

This section provides a summary of the key findings from the literature and points out their limitations. Past research on the three elements of my study, i.e. the integration of Web 2.0 tools in L2 education, the implementation of PBLL, and the provision of non-formal education has highlighted their potential benefits and challenges.

Web 2.0 tools, specifically Facebook, Google Docs, WhatsApp, and LINE, have been widely integrated in L2 education producing a variety of outcomes. Students generally have positive attitudes towards the use of Web 2.0 tools and perceive there to be benefits for L2 and non-L2. Their positive perceptions, however, do not necessarily translate into actual participation in learning activities. In order to identify patterns of interaction in a group work setting, researchers often use measures of participation rate and engagement with other peers. A collaborative interaction pattern is found to be superior for L2 learning and teachers play a key role in Web 2.0-supported teaching and learning activities.

PBLL has been implemented in face-to-face, online, and blended learning environments. Many studies on PBLL (except Zhang et al., 2009) have reported improvement in both L2 and non-L2 skills as well as students' positive perceptions. Nevertheless, the pedagogical effectiveness of PBLL may be reduced because of several challenges: lack of L2 use; issues related to collaboration; cultural background and previous learning experience which may conflict with the principles of PBLL; and in the case of online PBLL, the online course delivery mode may negatively affect its implementation.

Non-formal education, which has recently integrated the use of Web 2.0 tools, can help to build a democratic society. With regard to online non-formal L2 education, Chakowa (2018) found that students enjoyed the voluntary and non-graded nature of their online activities. However, she also noted the difficulty in maintaining students' motivation in non-graded learning activities.

The literature discussed in this chapter has a number of limitations. The first one relates to the integration of Web 2.0 tools in L2 education. As mentioned earlier, many studies

focus solely on the use of one tool; this limits the range of tasks students can perform. Since each Web 2.0 tool has its own affordances, the use of multiple tools should allow for more extensive tasks, but at the same time, may also create more issues. The literature currently has little information on how learners (and their teachers) used the affordances of multiple Web 2.0 tools to navigate real-world projects.

The second limitation relates to the efficacy of PBLL for L2 development. For example, at the end of their project, students in Eguchi and Eguchi's study (2006) felt that they had not improved their English. Chang (2014) also felt uncertain about her participants' English improvement. Further research is needed to investigate the language learning opportunities that exist within PBLL. Furthermore, there seems to be scepticism regarding the compatibility of PBLL principles with certain cultures. Studies on PBLL with East Asian students have generated mixed results. Holliday (1994) warned that a teaching method cannot simply be exported from one context to another. Indonesian learners, with characteristics such as passiveness, shyness, and quietness (Exley, 2005), may struggle with the student-centred learning that is championed in PBLL. Although a growing body of work has challenged the cultural stereotypes of Asian learners (Belchamber, 2007; Cao, 2011), an inquiry into the integration of online PBLL in Indonesia may shed more light on the compatibility of PBLL with East Asian student characteristics.

Thirdly, little empirical research has been conducted that investigates online non-formal L2 education (but see Chakowa, 2018). Considering the value of non-formal education in promoting lifelong and lifewide learning, the ubiquity of Web 2.0 tools, and the importance of English as a gateway to a better life in many countries, the results of this study may contribute to improving online non-formal ELTL in ESL and EFL countries.

Finally, many of the L2 studies, regardless whether they focused on the use of Web 2.0 tools or implementation of PBLL, still constrained their participants to interact with peers from the same class, school, or university. Since Web 2.0 technologies allow easy interaction between users, it is curious why learners are not encouraged to broaden their horizon by connecting with others beyond their institutional boundaries. After all, the ability to collaborate with others, including new peers and colleagues, is now considered

one of the most sought-after skills in the workplace (Lee, Kim, Park, & Choi, 2016; Sparks, 2017).

Having reviewed the literature, it is clear that further research is needed. The use of multiple Web 2.0 tools to facilitate online non-formal PBLL is new in Indonesia. Exploration of the three research elements (Web 2.0, PBLL, and non-formal L2 education) can add to the body of literature, contribute to the expansion of knowledge in the field and contribute to the improvement of English teaching and learning in Indonesia.

2.10 Research questions

My study explores the implementation of online non-formal PBLL in the Indonesian context. It answers the following research questions:

1. What happens when project-based language learning is implemented online in a non-formal education context?
    a. To what extent do learners and the teacher participate and contribute?
    b. How do learners and the teacher interact with each other?
    c. How do learners and the teacher use Web 2.0 tools?
    d. What obstacles do learners encounter?
    e. How does the teacher support learners?
2. What language learning opportunities does online project-based language learning afford learners in a non-formal education context?
3. What are Indonesian learners' views on their online non-formal project-based language learning experience?

The review of the literature suggests that online data archives (e.g. Facebook wall postings), field notes, and post-study interviews are useful tools with which to explore the promotion, and experience of, online L2 interaction practices (e.g. Adi Kasuma, 2016; Chakowa, 2018; Kamarudin, 2015; Leier, 2017). In these studies, the researchers chose the role of teacher-researcher and actively took part in the online interactions with their participants, rather than being solely an observer. Notwithstanding potential issues such as researcher bias and power relations, the dual teacher-researcher role allowed Adi Kasuma (2016), Chakowa (2018), Kamarudin (2015), and Leier (2017) to obtain a more

local perspective that might not be afforded to more traditional researchers. My knowledge of the field was taken into consideration when designing my study and in choosing my research methodology, which are described in the next chapter.

Chapter 3 Methodology

3.1 Introduction

This chapter concerns the research methodology. This chapter is divided into three broad areas, first reviewing the research goals and offering an outline and rationale for the methodological approach taken. The chapter goes on to state the philosophical stance adopted by the thesis, describing the ontological and epistemological positions taken. The next part discusses the research procedures with details about participant recruitment, data collection and data analysis techniques. The final section discusses ethics, researcher positionality, and concludes by addressing the issue of quality assurance and strategies employed to achieve this.

3.2 Purpose of study and research questions

The purpose of this study was to explore the implementation of online PBLL with a small sample of Indonesian EFL learners in non-formal education settings. It attempted to answer the following research questions:

1. What happens when project-based language learning is implemented online in a non-formal education context?
2. What language learning opportunities does online non-formal project-based language learning afford learners?
3. What are Indonesian learners' views on their online non-formal project-based language learning experience?

As mentioned in Section 2.10, the first research question is phrased broadly in order to remain open to any emergent themes that may occur in the study and serves as a basis for 'developing new, more specific questions during data collection and analysis' (Agee, 2009: 435). This results in the construction of a series of sub-questions during the data analysis process that narrow the focus of the overarching question. The second research question deals specifically with language and focuses language learning opportunities in PBLL. The third research question focuses on learners' views and insights regarding their online PBLL experiences.

3.3 Research methodology and design

Riazi (2016) describes research methodology as 'the researcher's theoretical orientation, his or her coherent perspective of the object of the study, and what can be known about it' (p. 277). Once the methodological orientation is conceptualised, researchers can proceed to designing their study. Whilst Riazi (2016) likens research methodology to the architectural feature of a study, research design is the engineering feature manifested in plans that researchers create in order to answer their research questions systematically.

According to Perry (2005), at minimum, any research design can be classified by three intersecting continua: Basic-Applied, Qualitative-Quantitative, and Exploratory-Confirmatory. With this in mind, I would locate my research blueprint near (but not at the extreme end) of the Applied, Exploratory, and Qualitative continua; this will be explained next.

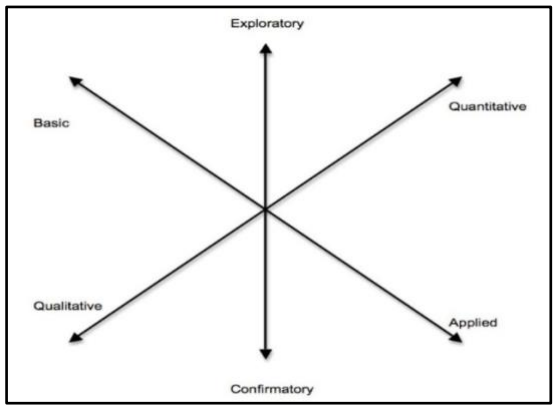


Figure 3.1 Perry's (2005) three design continua for classifying research (p. 72)

3.3.1 The Basic-Applied continuum

Depending on the researcher's immediate motivation for undertaking a research project, a study is considered *Basic* if the intention is to 'acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view' (Venuvinod, 2011: 181) and *Applied* if the intention is to solve practical problems (ibid). An example of Basic research is Nissen's study (cited in Hoffman, 2017) on how ion-pumps work in animal and plant cells. Over the years, knowledge gained from this basic research led to applied research that had practical applications, e.g. the treatment of fungal infections (ibid.).

More recently this dichotomy has been challenged as the relationship between the two is not always linear; that is to say basic research does not always precede applied research (Narayanamurti & Odumosu, 2016). Nevertheless, it is still a useful concept to clarify what a particular research will be used for. Although my study also attempted to contribute to knowledge creation, it was primarily focused on the implementation of a pedagogy, making it closer to the Applied end of the continuum.

3.3.2 The Exploratory-Confirmatory continuum

According to Perry (2005), 'the main characteristic of this continuum is whether a study is trying to find evidence to support (i.e. confirm) a hypothesis or explore some phenomena prior to the development of any hypothesis' (p. 80). Scholars in a natural science context insist that the two complement each other. Exploratory studies generate hypotheses that can be tested in confirmatory hypothesis-driven investigations. However, clear demarcation between them should be made so that standards of review can be determined based on the way the studies are classified (Jaeger & Halliday, 1998; Kimmelman, Mogil, & Dirnagl, 2014; Wagenmakers, Wetzels, Borsboom, Maas, & Kievit, 2012). Exploratory studies should be evaluated 'on the basis of whether findings using disparate and methodologically sound lines of investigation are coherent and fecund' (Kimmelman et al., 2014: 4). Meanwhile, confirmatory studies should be evaluated based on their abilities to reject the null hypothesis (Kennedy & Watt, 2018; Wagenmakers et al., 2012). Otherwise, there is a concern that exploratory methods might be passed off as confirmatory, thus making it difficult to judge the strengths of the findings reported (Wagenmakers et al., 2012).

Nevertheless, Gerring (2010) argues that in social science there are no purely Exploratory or Confirmatory research designs. He stresses the importance of the research situation when designing a study. Exploratory designs are often used when researchers have limited knowledge about a problem and can be a useful starting point for gaining insights and formulating hypotheses, which later can be tested with confirmatory approaches (Zikmund & Babin, 2007).

Since not much is known about the implementation of online PBLL in a non-formal education sector, and as argued in the next section, remaining true to PBLL pedagogy prohibits the testing of hypotheses due to uncontrollable variables, I would locate my research closer toward the Exploratory end of the continuum.

3.3.3 The Qualitative-Quantitative continuum

This continuum can be viewed in two ways: the literal use in terms of the type of data collected and the derivative use regarding research paradigms (Howe, 1992). Qualitative designs are linked to narrative data and typically subscribe to interpretivism and social constructionism, which are naturalistic and subjective (Denzin & Lincoln, 2005). By contrast, quantitative designs are associated with numerical data and stem from the positivist paradigm, which is most closely associated with the natural sciences (ibid.). Niglas (2007: 4) states that 'depending on the nature and complexity of the problem, the design can either be qualitative or quantitative or a combination of both'. Thus, there is a possibility to gather and use quantitative, qualitative or a mix of both data depending on the overall research strategy (ibid.). With this in mind, I argue that my study is located toward the Qualitative end of the continuum. In the next section, I shall elaborate on the considerations made in the search for the appropriate design within the Qualitative-Quantitative continuum.

3.4 Positioning of the research questions in the Qualitative-Quantitative continuum

3.4.1 Research question 1: what happens when project-based language learning is implemented online in a non-formal education context?

My first research question was inspired by a general curiosity about what happens when PBLL is not only implemented online, but also in a non-formal learning context. This is because as has been described in Section 2.7.2, PBLL is more generally associated with formal learning. Many questions sprang to mind, some of which were developed into the following sub-questions during my inquiry process (this will be explained further in Section 3.10.1.1).

Here I was interested in examining the phenomenon in-depth rather than in a numerical way or by asking questions that invited simple yes or no answers. This meant that a qualitative approach was better suited to answer research question one. Moreover, if a quantitative approach had been used, I would have needed to define the variables to be studied in advance. This would have limited the complexity of possible answers because it raises the risk of missing unexpected variables that I (or the previous literature) had not considered before. A qualitative design is not affected by this issue since the variables affecting the phenomenon arise through the data collection. Furthermore, in general, qualitative approaches are better suited to questions, such as this, where previous research, and therefore understanding is limited.

3.4.2 Research question 2: what language learning opportunities does online non-formal project-based language learning afford learners?

My second research question was developed in response to concerns identified in the literature over the efficacy of PBLL for L2 development. Initially, my question was *to what extent can online non-formal PBLL facilitate language learning?* Later, however, the complexity of the phenomenon under investigation led me to change this question to *what language learning opportunities does online non-formal PBLL afford learners?* This will be explained next.

The original question*, to what extent can online PBLL facilitate language learning?* And *how can this be demonstrated?* strongly indicated a cause-and-effect study, which is usually (but not always) associated with experimental (and quasi-experimental) quantitative research designs. These designs, however, are not suitable in my research context for various reasons. Firstly, 'experiments are usually conducted with high degrees of control and manipulation over the research setting and variables so that any change in the outcome measure can be attributed to the variation on the treatment or independent variable' (Riazi 2016: 112). Extraneous variables should be controlled where possible (ibid.). In my study, however, there were many potential extraneous variables that might influence the outcome of an experiment; for instance: group cohesion during the project; learners' motivation, confidence and L2 proficiency level; relationship with the teacher; and many others.

Since PBL is typically framed with an open framework that puts learners in charge of their learning, learning may go in different directions. In my study, learners had the freedom to choose what artefact to produce in their group. This increased the number of potential extraneous variables even further, and meant that they were impossible to identify in advance. Thus I could not measure and control them during an experiment. I did not wish to compromise the openness of the task inherent in PBL pedagogy for the sake of controlling confounding variables.

Secondly, experimental and quasi-experimental research involves the use of a pre-test and post-test design. However, creating pre-test PBL questions is impossible because a key component of the pedagogy is learners' genuine ownership of the process and the exploration that lead to the project outcomes (Blumenfeld et al., 1991). That is to say that at the beginning of the project, I could not predict which language learning areas learners would encounter or choose to focus on: grammar (and if so, what grammatical points), vocabulary (and if so, in what contexts), pragmatics (and if so, in what contexts), or others, or a combination of them. Since a specific learning goal was not decided prior to my study, I was unable to create pre-test questions that could test learners' knowledge of a learning outcome at the end of the project. Alternatively, I could have developed individualised post-tests for each learner based on LREs which were motivated by collaborative tasks (cf. Zeng & Takatsuka, 2009). In such a design, learners' ability to answer the post-test questions correctly would suggest that their mutual attention to language form during collaborative tasks enhances their language development. Nevertheless, creating individualised post-test questions requires a considerable amount of time, which I could not afford within the scope of a PhD study.

After careful consideration of the aforementioned issues, I decided that it was more feasible to approach research question 2 qualitatively. The project in my study was a meaning focused activity that requires authentic use of the L2 in order to communicate. Working in groups, learners discuss, negotiate and collaborate on their chosen artefact. This negotiation brings opportunities for modification of output and feedback focused on form (Pica, 1994), which would be used to show evidence of language learning opportunities (Leahy, 2011). It should be pointed out that even if indicators of L2 learning were found, no claim could be made regarding the cause-and-effect relationship between

doing online PBLL and L2 acquisition (ibid.). What can be provided instead is demonstration of the opportunities for L2 learning that occurs in PBLL. Insights from a qualitative approach might reveal examples of learners 'pushing their output to a higher level and developing their interlanguage' considered as potential for SLA (Leahy 2016: np). It was therefore a sensible choice in order to retain the freedom of student voice and choice inherent in PBL.

3.4.3 Research question 3: what are Indonesian learners' views on their online non-formal project-based language learning experience?

My third research question examines learners' views on their online PBLL experience. It can be approached quantitatively using survey questionnaires, or qualitatively using interviews, or a combination of both. Akbayrak (2000) suggests that decisions regarding which instrument to use should depend on the 'purposes of the research and the variables involved' (p. 9). As previously stated, my research aims to *explore* the implementation of online PBLL in the non-formal education context. I used the word *explore* to highlight the limited knowledge of the phenomenon available. This meant I could not easily anticipate *all* questions I possibly needed to ask, which I would have had to determine in advance had I chosen to use questionnaires. For this reason, a qualitative approach utilising semi-structured interviews was deemed to be the most suitable. Though I still needed to prepare questions (that could be identified from existing literature on the same topic in contexts different from my study), this type of interview gives the interviewer and interviewees the flexibility to diverge from the prepared questions in order to pursue an interesting idea or response in more depth (Gill, Stewart, Treasure, & Chadwick, 2008). With interviews, the chance of missing potentially interesting comments from participants is reduced compared to using questionnaires. Furthermore, questionnaires are typically used for collecting data from relatively large numbers of people, in order to generate more generalisable findings. My study was, by nature, a small-scale teacher-researcher study with a limited number of participants. It did not aim for generalisation, but rather 'to provide a rich, contextualised understanding of some aspect of human experience' (Polit & Beck, 2010: 1451). I therefore decided my research question 3 was best approached qualitatively.

In summary, taking into account the nature and complexity of my research problems, I considered that a qualitative research design was the most reasonable choice. This decision fitted into this study's philosophical stance as described below.

3.5 Philosophical stance: interpretivism and constructivism

Twining, Heller, Nussbaum, and Tsai (2017) assert that qualitative researchers need to explicitly state the ontological assumptions (about the nature of reality) and the epistemological assumptions (about the nature of knowledge and knowing) which frame their study. These stances can 'help both the researcher and the readers of the research to appraise the systematicity and coherence of the research and the plausibility of the conclusions made' (Riazi, 2016: 278).

So, at this point I will describe the philosophical stance adopted by this thesis. This study is situated within the interpretivist and constructivist paradigm because I believe that there is no absolute objective reality. My view on the nature of reality is that I was dealing with a complex phenomenon in which full control over the research variables was neither possible nor desirable since maintaining students' voice and choice was important for me. Furthermore, learners have their own perspectives on their engagement (or lack thereof) with online non-formal PBLL because they make their own meanings of the world, which may be different from my perspectives. Thus my ontological stance is relativism, which highlights that reality is socially constructed, and that there are diverse interpretations of the world, none of which is more accurate than another (Chen, Shek, & Bu, 2011).

The epistemological position of this study is also interpretivist and constructivist, which holds that knowledge is 'produced by exploring and understanding the social world of the people being studied, focusing on their meaning and interpretation' (Snape & Spencer, 2003: 12) and that my task as a researcher is 'to construct meanings and interpretations based on those of participants' (ibid.). Since this means that there is no value-free research, I acknowledge that my interpretation of the data collected may not be the same as the view other researchers would develop and any knowledge I claim to provide can be deconstructed. Similarly, if different participants were chosen to participate in this study,

they would bring different psychological, social, historical and cultural factors with them, which could then lead to different knowledge interpretations. This uncertainty and relativity reiterates that objective knowledge does not exist.

Overall, therefore, since interpretivism and constructivism focus on meanings or interpretations, they 'automatically tend to prefer qualitative research methods than quantitative methods' (Chen et al., 2011: 135). This complements the qualitative approaches featured in my research design.

3.6 Research sample

This study used two rounds of sampling: snowball sampling and volunteers. To examine the feasibility of conducting my research in the Indonesian context, an online questionnaire (the English translation of the questionnaire is available in Appendix A) was distributed through snowball sampling (Biernacki & Waldorf, 1981) from 2 December 2015 to 5 March 2016 (cf. Sampurna, 2016). It was deemed the most appropriate procedure to reach potential participants because I had no direct access to Indonesian tertiary learners, my target respondents. The target group for the research was decided after careful consideration. First, tertiary learners should (but not always do) have higher English proficiency compared to younger learners as they should have been learning English for longer. Some level of L2 proficiency was needed in PBLL because of the project design, which required participants to use L2 in order to interact with each other during the process of group artefact creation (described in Section 3.7). Second, compared to younger learners, tertiary learners usually have better access to digital devices needed in this research. For these pragmatic reasons, tertiary learners were selected as the target group of participants.

The survey was promoted as follows:

- Social media: I announced it on my personal Facebook and Twitter page encouraging others in my network to help share the survey with target respondents. I also approached Indonesian teachers of English on Facebook Group Teacher Voices, of which I am a member, and asked if they would be willing to share my survey with their students.

- Email: I contacted authors from TEFLIN Journal, an Indonesian publication of ELTL, outlined my research and inquired whether they would be willing to help share my survey with their students, and followed up where appropriate.
- It seems that most of the teachers and academics who agreed to help distribute my survey chose to share the survey link on their Facebook and/or WhatsApp Group, in which their students are group members.
- Mailing list: some Indonesian colleagues circulated my survey through their organisations' mailing lists.

The questionnaire gained 495 responses. Answers from non-target respondents (those who were not Indonesian undergraduate students, based on their response to question 14: *which academic year are you in at university?* and 14a: *If you choose Others, please give further information)* were excluded. This left a total of 453 valid responses. On the whole, the findings revealed a positive outlook towards the feasibility of carrying out my study in Indonesia. Questionnaire takers showed attributes such as autonomy, motivation, positive attitude towards collaboration, and they were regular users of various Web 2.0 tools. There was, however, one factor which could hamper the success of PBLL: 60% of respondents reported anxiety over making mistakes when using English.

At the end of the survey, respondents were invited to take part in the main study. If they were interested, they were prompted to state their name, email address and/or phone number so they could be contacted in the near future, sometime before my main studies were due to start.

Thus, participants for my main studies were selected using volunteers as a sampling strategy. Perry (2005: 65) describes volunteers as 'participants who have been solicited and have agreed to participate in a study… they are not under any obligation to participate in the study'. A possible issue with such an approach is that volunteer bias could occur as 'using volunteers frequently leads to a sample that is not representative of a target population' (ibid.) and that 'the study will almost certainly attract individuals more pre-disposed to the treatment than students who do not volunteer' (Brownell, Kloser, Fukami, & Shavelson, 2013: np). Despite these potential issues, Brownell et al. (2013) acknowledge that the use of volunteers is sometimes unavoidable for ethical or

logistical reasons. Perry (2005), Exadaktylos, Espin, and Branas-Garza (2013) as well as Brownell, Kloser, Fukami, and Shavelson (2013) emphasise that studies using volunteers are of value.

Since my study aimed to create a non-formal English learning community and non-formal education entails voluntary learning (Lafraya, 2011), the use of volunteers was considered appropriate. Furthermore, in my context, the use of volunteers was the only way to recruit participants because of a lack of access to Indonesian learners as mentioned above. Hence, I took Perry's (2005) and Brownell et al.'s (2013) advice to recognise limitations arising from my sampling strategy and carefully interpret the study findings.

Out of the 453 valid questionnaire respondents, 360 indicated their interest to participate in my main studies. As soon as a second ethical approval was obtained from my university, I contacted the 360 potential participants via email in July 2016, providing them with information about my study and a formal invitation to participate in it (see Appendix B). The email was written in Indonesian to avoid any misunderstanding. In the table provided at the end of the email, learners were asked to type 'YES' if they were willing to participate, indicate which study (A or B) they would like to participate in, and send their reply to me should they decide to take part in my study. Study A was intended to be my pilot study and B, my main study. However, as will be elaborated in Section 3.7, the passivity of participants in Study B, which made the implementation of lessons learnt from Study A (intended to be my pilot study) very difficult to do, coupled with the fact that the number of participants in both studies are quite similar, prompted me to change my research design. Instead of treating the two studies as a pilot and a main study respectively, I decided it was more appropriate to consider them as two separate studies. Collecting data from two different cohorts at different times allows for data triangulation, which enhances the credibility of my study.

Only eleven learners replied to my email: nine stated they agreed to participate and two asked for more information about the study. They wanted to know about the level of commitment required (as they were busy with campus activities) and whether there was going to be a face-to-face meeting.

Although I intended to keep the sample size small and manageable to allow for thorough analysis of the data, I felt that nine participants were not enough. Discussing the low response rate to my email with Indonesian colleagues, I became aware that Indonesian learners do not regularly check their email and that they use Web 2.0 tools such as WhatsApp and Facebook more extensively than email, even in formal situations involving communication with their lecturers or supervisors. As a result, there could have been some learners who were actually interested in participating but had missed my email, I decided to approach learners who had not replied to my email one more time. This time I did so by re-sending the invitation via WhatsApp, a popular mobile chat application suggested by my Indonesian colleague. I felt the original information provided in the email was too long for a mobile chat and thus I only wrote a short message with a link to the actual invitation (see Appendix C), which I created on a blog (jessicasampurna.com). If learners wanted to participate, they were asked to reply to me on WhatsApp or email. If they did not want to participate, they were asked to ignore my WhatsApp message. 27 learners replied to my WhatsApp, 15 expressed that they were interested and/or maybe interested. The rest of the replies were polite rejections, e.g. they would take a look at the link to the invitation later (and never replied again), they were busy with other commitments, or they did not think their English was good enough. I explained to learners who were anxious about their English proficiency that they need not be concerned as the goal of the research was to create a network of learners who help each other learn and use English, but respected their decision as I did not wish for any participants to feel pressured to participate.

The exit interviews revealed that the majority of the participants did not know each other prior to the study, even though some of them were at the same university and/or were studying the same major. They agreed to participate without realising that their classmate(s) had also decided to take part in the research because each learner was invited individually by email and then WhatsApp.

In total, 11 learners agreed to participate in Study A and 15 learners agreed to participate in Study B. However, as the studies progressed, five participants were considered as drop-outs for the following reasons:

- two learners never posted or said anything throughout the study (Carrie and Ariel from Study A);
- one learner withdrew because of heavy university workloads (Mel from Study A);
- two learners stopped making contributions and did not respond when I enquired about how they were doing via private WhatsApp chat (Sylvia from Study A and Ruth from Study B).

Table 3.1 Number of participants in Study A and B

Timeline	Study A (1-31 August 2016)	Study B (1-31 October 2016)
Beginning of the study	11	15
The end of week 1	8	15
The end of week 2	7	15
The end of week 3	7	14
The end of week 4	7	14

Table 3.2 summarises background information of participants. To protect anonymity, pseudonyms were chosen. The use of location and university (identified by number) is not sufficient to identify any individual due to the large number of students at each institution. It should be noted that learners' degree of participation varied greatly and those who were available for interviews (conducted after the study had been concluded) were considered to have completed the research regardless of their participation level.

Table 3.2 Profile of participants

	Pseudonym	Gender	Age	Major	Location	University name
Study A	Ann	F	20	Visual communication design	Surabaya	U1
	Vera	F	22	Management	Malang	U2
	Pete	M	20	Industrial engineering	Surabaya	U1
	Heidi	F	21	Information system	Makassar	U3
	Hector	M	22	Food technology	Jakarta	U4
	Ivy	F	20	Information system	Makassar	U3

	Rita	F	22	TESOL	Malang	U5
	Sylvia*	F	N/A	English literature	Malang	U2
	Mel*	F	N/A	TESOL	Banjarmasin	U6
	Carrie*	F	N/A	N/A	N/A	N/A
	Ariel*	F	N/A	N/A	N/A	N/A
Study B	Roy	M	20	Mathematics	Yogyakarta	U7
	Bob	M	21	TESOL	Malang	U5
	Naomi	F	20	Accounting	Surabaya	U8
	Macy	F	20	Management	Jakarta	U9
	Nada	F	22	English literature	Malang	U2
	Wina	F	19	Primary education	Bandung	U10
	Ava	F	23	English literature	Malang	U2
	Kerri	F	22	Medicine	Manado	U11
	Prue	F	21	TESOL	Surabaya	U12
	Devi	F	20	Industrial engineering	Malang	U2
	Amy	F	22	TESOL	Malang	U5
	Daisy	F	22	TESOL	Malang	U5
	Zoe	F	20	TESOL	Banjarmasin	U6
	Rei	F	21	Industrial engineering	Malang	U2
	Ruth*	F	N/A	TESOL	Tasikmalaya	U13

Note: the symbol * denotes participants who did not partake in exit interviews, which resulted in significant missing data (from basic information such as age, location, and university as marked N/A in the table, to more pertinent information, such as reasons for their lack of participation in the project, which would have been useful to answer research question 3, and were therefore not included in data analysis.

3.7 Research procedures

I created two closed Facebook groups, called *'Study A: doing project-based language learning'* and '*Study B: doing project-based language learning',* and invited participants to them. Similar to online discussion forums, Facebook groups allow people to come together online, have a discussion, post photos, and share content. The 'closed' privacy option means only members can see posts made in the group and anyone can ask to join the group, but the administrator (i.e. myself) must approve them. Facebook users need not be 'friends' with each other to join the same group. However, due to some technical

issues, one participant (Pete) could not seem to receive my invitation to join his allocated Facebook group (Study A). The group allocation was based on participants' preference or negotiation with me if they had indicated willingness to participate in either Study A or B. So, with Pete's permission, I added him as a 'friend' and thereafter he successfully joined Facebook group for Study A.

To maximise English learning benefits (and also taking into account the issue of prevalent L1 use in other PBLL research as mentioned in Section 2.7.2), participants were encouraged to use English although the use of Indonesian was not prohibited. Because they came from different majors, I opted for a project that would be inclusive of all regardless of their educational backgrounds. The focus of the project was to create the content for a website aimed at Indonesian elementary-school children wanting to learn English. The chosen target audience was young children so that participants had the option to adjust the complexity of their artefact, both in terms of content and language, to their own level of comfort and confidence in using English. Meanwhile, if an older target audience had been chosen, e.g. secondary or university students, potential participants could have been discouraged from participating if they thought they had to produce academic-type artefacts, i.e. the type they had been accustomed to use during their secondary-school years. Once participants' artefacts were finished, they were uploaded online (see pbll.online[4]) so that they could be freely used by the target audience. An overview of artefacts produced by each group is provided in Section 4.2.2.

Although I was the sole decision maker with regards to the overall project, student voice and choice was still respected and promoted as learners were given complete freedom to choose the artefact they wanted to create for the website content (see Table 3.3 Week 1 below).

Prior to the project commencement, I created a basic plan, which consisted of weekly objectives and activities for participants. This plan was intended to be a guide as I had always intended to be flexible and responsive to learners' needs and situations. For example, Facebook was initially planned as the sole Web 2.0 tool used in the project.

4 Pbll.online published learners' final group artefacts after explicit teacher correction in order to provide a good L2 model to young learners.

However, after discussion with participants, it was clear they preferred to use other Web 2.0 tools to support the project, which led to the introduction of other tools, namely WhatsApp, Google Docs (GD) (consisting of GD documents and GD chat), and LINE, in addition to the original designated platform of Facebook. This will be explained further in Section 3.8.1).

Furthermore, I was keen to use lessons learned from Study A to improve Study B which took place two months later. For example, some participants in Study A mentioned in the interviews that they would have liked a fixed timetable of what to do and when. So I felt it would be good to ask participants in Study B to create their own timetable and set the pace of their own work, and so learn to be more autonomous. Unfortunately, during the course of Study B, I found most of the participants to be quite passive and felt it was best not to overwhelm them. This meant that the implementation of Study A and B and my facilitation style were almost identical, but for some minor changes, which will be elaborated on in Section 3.8.2 and 3.8.3.

Table 3.3 shows how the project was planned. Here I would like to reiterate that originally all activities were meant to be conducted on one platform (i.e. Facebook). Having said that, I had also considered that learners could have preferred to share their reflection privately and had planned to give them options to do this via email or Facebook messenger.

Table 3.3 Project plan

Timeline	Objectives & activities
Week 1 (Day 1-7)	*Getting to know each other:* Learners do ice breaker activity.

	Getting input: Learners: • look up examples of available English learning websites targeting children; • choose one and share the link on Facebook; • discuss with others what features of the chosen website they like/dislike and why.
	Preparing for collaboration: Learners put themselves into groups.
	Deciding on project artefact: Learners discuss and agree on what artefact to create for the project.
	Reflecting on Week 1 experience: Learners reflect on their Week 1 experience.
Week 2 (Day 8-14)	*Producing output:* Learners start collaborating on their chosen artefact.
	Reflecting on Week 2 experience: Learners reflect on their Week 2 experience.
Week 3 (Day 15-21)	*Producing output:* Learners continue working on their chosen artefact.
	Reflecting on Week 3 experience: Learners reflect on their Week 3 experience.
Week 4 (Day 22-28)	*Giving and receiving inter-group feedback:* Learners give peer feedback to other groups.
	Revising, editing, finalising output: Learners do final round of editing before submission.
	Reflecting on Week 4 experience: Learners reflect on their Week 4 experience.
Week 5 (Day 29-31)	*Receiving final teacher feedback:* Learners are asked whether they would like to receive corrective feedback. If so, they receive corrective feedback.
	Scheduling interviews: Learners choose an interview slot
Within 2 weeks after the project ended	*Conducting interviews:* Learners participate in an interview.

3.8 Overview of project implementation

This section describes how the project was implemented and the extent to which it followed my original plan (cf. Table 3.3).

The online data and the researcher's diary suggested that the progression of the projects in both Study A and B largely followed my original plan although the way the project developed necessitated slight modifications. These included the introduction of

additional Web 2.0 tools and the reduction of learners' reflection activities. Detailed description of how the project was implemented in Study A and B can be found in Appendix D.

3.8.1 Introduction of additional Web 2.0 tools

My original plan was to utilise only one tool: Facebook. However, as the project progressed, two additional tools – WhatsApp and GD (GD doc and GD chat) – were introduced into Study A and B. Group B4 from Study B ended up using an extra tool, viz. LINE. The rationales for introducing these additional tools are explained below.

Firstly, in Study A, concerned by the lack of learners' replies when I attempted to engage them in a conversation on Facebook, I decided to conduct a poll to find out whether learners would have preferred to use another tool for communication.

Since the majority of learners chose WhatsApp, I created two separate WhatsApp groups hoping that by using their preferred medium of communication they would be more responsive to the teacher's prompts and tasks. I decided to create the WhatsApp groups instead of asking learners to do it themselves because of two reasons. Firstly, I had access to all learners' mobile numbers, but the learners did not. As it was still early in the project, I was not sure whether learners would be comfortable exchanging numbers. Second, I felt it would be more efficient as I could create the groups quickly so that learners could spend their time on a more important task, i.e. discussing what artefact they would like to create. Because in the interview many learners in Study A expressed preference for WhatsApp over Facebook, WhatsApp was also used in Study B. One of the suggestions given by learners at the end of Study A was that in addition to the smaller separate WhatsApp groups, a bigger WhatsApp chat comprising of all participants should also be created so that they could communicate more easily with peers outside their own group. Thus, in Study B, there were five WhatsApp groups: one for each group (Group B1, B2, B3, B4), and one for all participants (Mixed Group).

The second tool was introduced after both groups in Study A agreed on creating a written story as their artefact. Learners began discussing their initial story ideas on WhatsApp,

but I felt that their discussion kept going round in circles. So, I checked if learners in both groups thought it would be useful to use GD as their writing platform. As both groups thought GD was more suitable for writing, I created two separate GD documents so that they had a more private writing space. This meant they would not need to worry or be influenced by what the other group was writing, and their draft would be a surprise when shown to the other group during an upcoming intergroup feedback session. Furthermore, initiated by Ann, Group A1 used the GD chat feature for synchronous interactions in a sidebar whilst simultaneously working on their GD document. I noted how synchronous interactions on GD chat had positively affected Group A1's collaboration:

> *Group A1: major breakthrough! For the first time ever, I saw evidence of collaboration between Pete and Vera…. I slowly discovered that it's perhaps a good idea to arrange a 'meet-up time' usually between 8.30-9 pm to encourage more LIVE interactions between participants. The use of GD chat is very useful as they can interact whilst working on GD at the same time…*
> (Research diary, 22/8/2016)

From then on, Group A1 regularly had synchronous chat sessions, which were organised on WhatsApp and carried out on GD chat and GD documents.

Realising the potential benefits of GD chat, I also encouraged the other groups in both studies to use this feature whilst working on their output. However, only one other group, i.e. Group B1 from Study B, followed my suggestion. So, only 2 out of 6 groups utilised GD chat during the project.

Alongside the new tool, which matched learners' preference and needs, I continued to use Facebook to provide updates on project and to announce tasks. I felt this would give a sense of permanency in case learners missed what was happening on WhatsApp and GD. This meant that I sometimes repeated what I considered an important announcement across Facebook and WhatsApp. The students occasionally replied to or liked my Facebook posts.

The final tool, LINE, was added to one group only, i.e. Group B4. Five days after WhatsApp group chats were created, Rei from Group B4 finally mentioned that she was unable to install WhatsApp on her mobile phone due to insufficient storage. I had to devise a

solution so that Rei was not excluded from her group chat. As Rei was a LINE user, I asked whether the rest of Group B4 were willing to use LINE instead of WhatsApp for their chat platform. Daisy and Amy were already LINE users, but there was no reply from Zoe. Nevertheless, I decided to utilise LINE group chat for Group B4 so that Rei could take part in their collaboration, whilst also keeping their WhatsApp group chat just in case Zoe was unwilling or unable to use LINE. Two days later, Zoe showed up in LINE, so it became Group B4's main chat platform. I kept their WhatsApp group chat open for updates and announcements, as I was not sure which app was more frequently used by each group member.

3.8.2 Change of ice-breaker activity

The ice breaker activity in Study A was inspired by Lantz-Andersson, Vigmo, and Bowen (2013). Participants were asked to upload a picture of something important to them and explain why it was important. Five out of eight participants chose either a mobile phone or a laptop and this topic did not seem to generate much conversation. So, in Study B, I changed the ice breaker activity into a simple self-introduction, e.g. nick name, university/major, and hobby.

3.8.3 Modification to learners' reflection activity

Learners' reflection activity was modified in two ways. First, I reduced the number of reflection prompts. The plan was to help learners reflect on their project experience by providing prompts on a weekly basis. However, due to the lack of responses to such prompts, coupled with the relatively slow progress made by learners, I decided to forgo some of the reflection activity. It was hoped that this would lighten learners' workload so that they could focus on producing their artefact. In Study A, a total of three weekly prompts were given; meanwhile, in Study B, two weekly prompts were given. Second, I promoted reflection activity more vigorously by announcing my reflection prompts on two platforms in Study B (Facebook and WhatsApp), as compared to one platform in Study A (only Facebook). This was because some participants in Study A mentioned that they had not submitted their reflection because they had missed my calls for reflection and prompts on the Facebook Group wall. This was probably because of technical issues, e.g. they did not receive Facebook notifications alerting them that a new post had been made on the Group, or they missed them because the posts in Facebook Group were not

shown in chronological order. At the time of the research, the most active conversations were shown at the top, so participants could easily miss a post that did not attract comments or 'likes'; my call for reflection was an example of such an unpopular post. Hence in Study B, I made my call for reflection more visible by announcing it not only on Facebook, but also WhatsApp.

3.9 Data collection

The data collection occurred over two phases: Study A was conducted from 1-31 August 2016 and Study B from 1-31 October 2016.

The choice of data collection methods was based on the type of information I sought, from whom the information was be obtained and the circumstances under which the study was conducted (Robson, 2002). Taking this into account, I used multiple data collection instruments to answer my research questions as illustrated in Table 3.4.

Table 3.4 Data collection methods

Research questions	Data collection methods						
	Online data				Research diary	Semi-structured interviews	Learners' reflections
	Facebook	WhatsApp	GD	LINE*			
RQ1. What happens when project-based language learning is implemented online in a non-formal education context?	✓	✓	✓	✓*	✓		
RQ2. What language learning opportunities does online non-formal project-based language learning afford learners?	✓	✓	✓	✓	✓		
RQ3. What are Indonesian learners' views on their online non-formal project-based language learning experience?						✓	✓

* - LINE was only used by one group in Study B

3.9.1 Online data

Facebook, WhatsApp, GD, and LINE are archived research sites, which allowed me to retrospectively observe learners' actions and interactions. It should be noted that as a teacher–researcher, I was also a direct participant in these interactions. I set the tasks, provided support, encouragement and advice; such actions were taken as I was assuming the teacher's role. When the studies were concluded, online data were analysed and interpreted.

As described in Section 2.5, Web 2.0 tools offer affordances that make them attractive for learning and teaching. Table 3.5 summarises whether and how the Web 2.0 tools used in this study related to visibility, persistence, editability, association and ownership. Some of these technological affordances are not mutually exclusive. For example, allowing users to write comments can be included both in the *visibility* and *association* categories (Treem & Leonardi, 2013).

Table 3.5 Affordances of Web 2.0 tools used in this study

Web 2.0 features that afford	Facebook	WhatsApp	GD	LINE
Visibility : -content publishing -notification of changes / new content -allows comments and opinion expression (e.g. the 'like' button)	 ✓ ✓ ✓	 ✓ ✓ ✓	 ✓ ✓ ✓	 ✓ ✓ ✓
Persistence: -history of activity recorded -chronological format provides timeline of content	 ✓ ✗	 ✓ ✓	 ✓ ✓	 ✓ ✓
Editability: -asynchronous entries -previous history of edits available -revision of own content permissible -content contribution of others can be deleted	 ✓ ✗ ✓ ✓	 ✓ ✗ ✗ ✗	 ✓ ✓ ✓ ✓	 ✓ ✗ ✗ ✗
Association: -allows comments and opinion expression (e.g. the 'like' button) -use of tags (@) to show directed messages	 ✓ ✓	 ✓ ✗	 ✓ ✗	 ✓ ✗
Ownership: -content creation -content publishing -collaborate with others	 ✓ ✓ ✓	 ✓ ✓ ✓	 ✓ ✓ ✓	 ✓ ✓ ✓

Table 3.5 shows that the use of several Web 2.0 tools provided affordances that enable greater facilitation of activities in online PBLL. Following on from this summary, the next section explains the impact of specific features of each Web 2.0 tool on my study.

3.9.1.1 Facebook

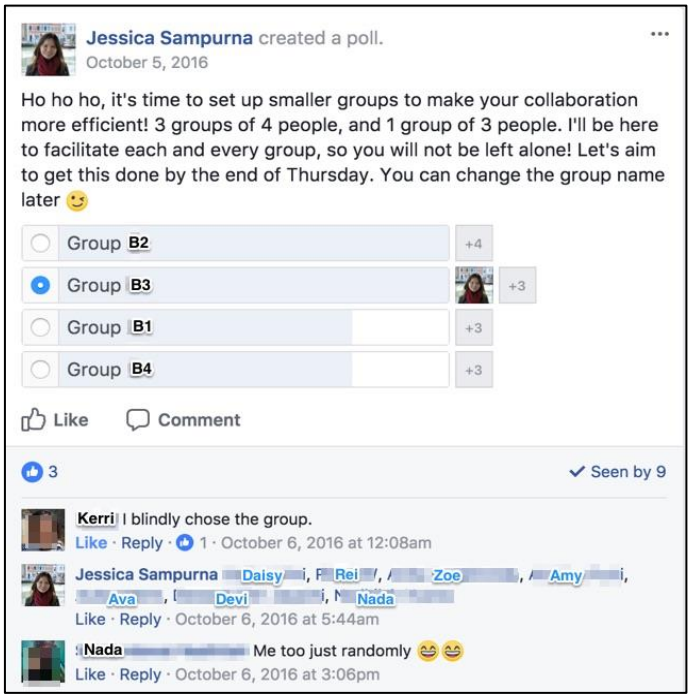
As mentioned in *Procedures* (Section 3.7), my original intention was to use only one Web 2.0 tool, i.e. Facebook, as an interaction platform throughout the study. Participants were invited to join a Facebook group created specifically for the purpose of this research.

Facebook group has an interactive feature called Facebook *wall*. In my study this space acted as a learners' hub and was used for posting messages, photos, as well as commenting on and liking others' posts. The use of Facebook group and wall in this study was analogous to a common area in an office; it was a space primarily for socialisation in the first week and turning more into space for teacher announcements from Week Two onwards. I also occasionally used Facebook Wall for conducting a poll, which was a quick way to get information from learners, e.g. as can be seen in Example 3.1 below. When there were numerous comments on a particular post, it looked similar to an online discussion forum. Underneath each post, a ✓mark, which can be seen by anyone in the group, appears to show how many learners have seen it; hovering over the ✓ enables users to find out who have seen the post. It should be noted, however, that seeing a post did not necessarily mean one had read it carefully.

Depending on each user's Facebook account settings, they can allow push notifications of updates (e.g. new posts made on Facebook group) even when they are not logged into Facebook. However, it should be noted that this setting was rather temperamental and some learners (and I) did not always receive these notifications even if we had turned on push notifications.

Another feature of Facebook that could have had an impact on my study was the fact that posts were not shown chronologically on Facebook group wall, meaning learners could miss more recent posts, which were buried in older posts. Because of this, I regularly copied announcements I made on Facebook and pasted them into WhatsApp.

As shown in Example 3.1, '✓seen by 9' enabled me to identify which learners had and had not read my post. To encourage learners who had not put themselves into a group, I specifically tagged them (as can be seen in names written in blue), hoping that this would notify and encourage them to check what they were tagged in.



(Facebook, Study B, 5/10/2016)

Example 3.1 Facebook Group wall post and comments.

3.9.1.2 WhatsApp

The way WhatsApp group chats were created in Study A and Study B was slightly different, as can be seen in the Table 3.6.

Table 3.6 The number of WhatsApp group chats in Study A and B

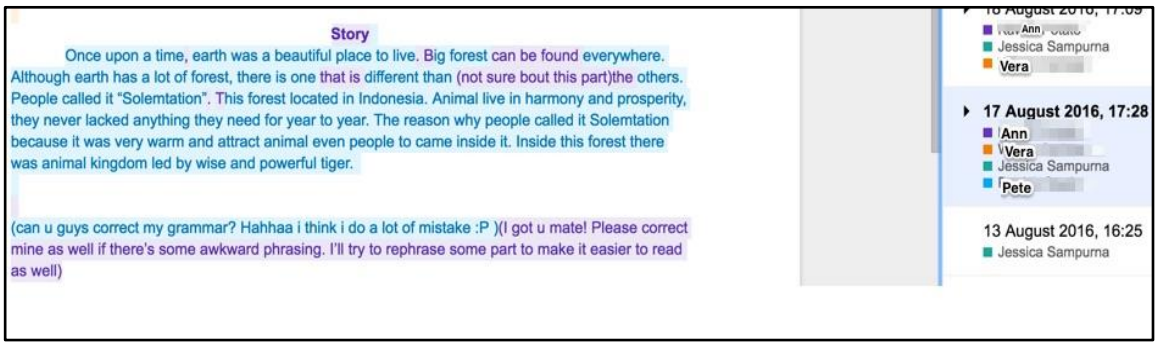
	Study A	Study B
WhatsApp data (Group chats)	-	1 whole Group chat (n=14)
	2 separate Group chats: Group A1 (n=3) Group A2 (n=4)	4 separate Group chats: Group B1 (n=4) Group B2 (n=3) Group B3 (n=3) Group B4 (n=4)

In Study A, I invited learners (who had already put themselves into groups of their choice) into two separate WhatsApp group chats. The reasoning behind having separate Groups was so that: (a) learners could focus on their group's collaboration without getting distracted by the discussion going on in the other group; and (b) the artefact created by the other group would be a surprise when it came to inter-group feedback time.

In Study B, however, taking into account the suggestions from some learners in Study A given in their interview, I decided to not only provide separate Group chats, but I also created an additional WhatsApp chat space dedicated for all learners. This meant that they could maintain contact and interact with learners in the other groups should they wish to do so.

3.9.1.3 Google Docs

Using GD, a learner could take actions (or not) based on their peers' and/or my comments and mark them as 'resolved'. One of the most useful features of GD for this research is the 'See revision history' command. It allowed learners to follow changes made by their peers (and take actions based on them), as well as enabled me to trace back how each group's artefact was created and who did what from the specific colour assigned to each user. Example 3.2 shows how learners in Group A1 collaborated on their story on 17 August 2016. The texts in purple was written by Ann, whilst those in blue was written by Pete.

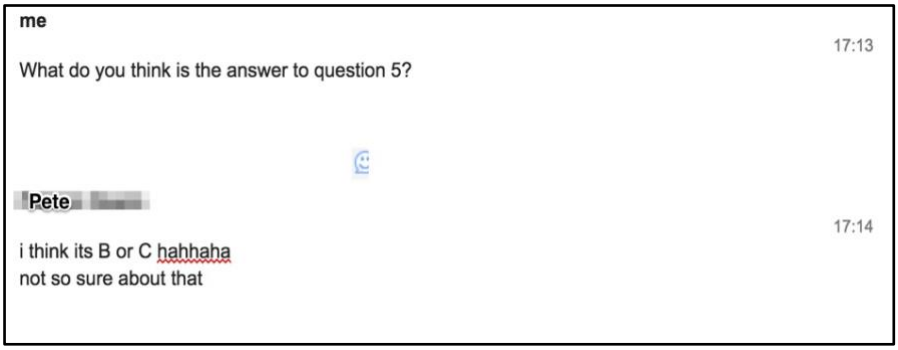


Example 3.2 'See Revision History' function in GD document

GD chats are synchronous and allow users to have a discussion whilst simultaneously working on their document. This contrasts with face-to-face collaboration, wherein learners usually either write down their ideas on separate notes to be combined later or

one learner acts as the scribe for the group. Using a GD document, multiple learners can write on the same document, and all their actions are automatically recorded. Moreover, compared to a face-to-face collaboration, specific colours assigned to each GD user make it easier to gauge each member's contribution.

I was not aware of the chat feature in GD until Ann from Group A1 in Study A started a chat window on GD and recommended that they work on GD document and GD chat simultaneously. Initially my plan had been to use GD document (for artefact creation) and WhatsApp chat (for discussion), but clearly Ann's solution was more efficient. Unlike GD documents, which automatically save any changes made by users, GD chats are not automatically saved. I only realised this on the second day GD chat was used, which resulted in the loss of GD chat data made on the first day. To compensate for this, I wrote down the main points of what had been discussed to make up for the missing data and from then on, I copied and pasted GD chat data to a separate GD document. It should be noted that most of the emoticons used in GD chat could not be pasted into a GD document, although strangely the smile emoticons were sometimes successfully copied and pasted.



(GD chat, Group A1, 22/8/2016)

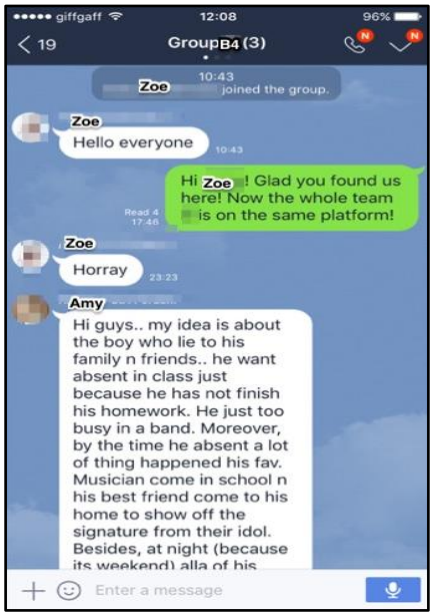
Example 3.3 GD chat with half a smile emoticon

As can be seen in the Example 3.3, there was a big gap between my text and Pete's; this indicated the space where one or more emoticons I had used after writing *What do you think is the answer to question 5?* were missing, except for the incomplete smiley face that showed up in the copied GD chat.

Not all groups utilised GD chats, despite my encouragement to do so. In fact, only two groups chose to use them: Group A1 in Study A and Group B1 in Study B.

3.9.1.4 LINE

The format of LINE is similar to WhatsApp; the text written with the green background was mine and the text with the white background was the learners'.



(LINE, Group B4, 14/10/2016)

Example 3.4 LINE chat screenshot on my mobile phone

During data collection, I was not aware that LINE, just like WhatsApp, could be used on desktop by installing a Chrome extension app. Thus, I used LINE solely on my mobile phone, which was less convenient compared to WhatsApp which I mostly used on my desktop.

3.9.2 Research diary

On a daily basis, I recorded my own accounts of events, actions, or behaviours that I found significant or interesting whilst in the field (during live observation) and/or at the end of the day, as well as my thoughts and feelings about them (Appendix E gives an example from my research diary). Hence my research diary was essentially 'a melting pot for all the different ingredients of a research project – prior experience, observations, readings, ideas – and a means of capturing the resulting interplay of elements' (Newburry, 2001: np), through which 'the interaction of subjective and objective aspects

of doing research can be openly acknowledged and brought into a productive relationship' (ibid.). I wrote my notes in English as it has become my preferred language. Having said that, as my notes were intended to capture interesting thoughts and observations whilst they were still fresh in my mind, they were written quickly, sometimes at the same time as I was observing several groups. Thus, I recorded my thoughts with little attention to English language accuracy.

3.9.3 Semi-structured interviews

Interviews can be *structured* (with a set of fixed questions to allow for comparability across participants), *unstructured* (with non-standardised, open-ended questions depending on individual interviews, or *semi-structured* (with some a priori core questions and flexibility to ask spontaneous questions or invite more elaboration from the interviewees) (Riazi, 2016). I chose the third option because whilst I had prepared some core interview questions which covered areas relevant to my research questions, I also wanted to allow for the inclusion of information that I might not have previously considered important, but that could be significant from the interviewee's perspectives. The interview questions used in Study A and B were not identical, although the majority of the questions were the same. After Study A interviews were transcribed and analysed, I discussed some of the findings with my supervisors and they suggested some changes; for example, reducing the number of questions on learners' background and asking more questions on the teacher's roles (see Appendix F for interview questions used in Study A and B). Examples of the other types of data collected in this study, i.e. online data and learners' reflections, can be seen in the extracts used to support my findings.

Due to the geographical distance between the interviewees (in Indonesia) and me (in the UK), the most practical choice was to conduct internet-supported exit interviews. At the end of each study, I created a GD table and invited learners to choose an interview slot and the application of their choice: WhatsApp, LINE, or Skype. All learners opted to use WhatsApp or LINE and the interviews ranged from 37 to 73 minutes with an average of 50 minutes.

Because of unstable internet and network connections in Indonesia, voice calls were used instead of video calls. Learners freely selected their location for the interview (e.g. home, university, café) and I was at home to minimise distraction and achieve higher sound quality. With learners' consent, interviews were recorded with a voice recorder. Some interviews went smoothly, but some calls were interrupted when slow internet or wifi connection caused poor audio quality. Fortunately, all the interviewees were cooperative and patient when I had to repeat the questions, ask for clarification, or ask them to repeat their response one more time.

Initially I was keen on conducting the interviews in Indonesian so that learners could respond confidently and eloquently. Furthermore, I was hoping that it would create a more conducive environment for expression and rapport building (Tsang, 1998). However, I was also aware that some learners were eager to use the interview as an English-speaking practice and did not want to deny them the opportunity. Hence, they were given the option to be interviewed in English or Indonesian. Nine learners chose English, and twelve wanted to be interviewed in Indonesian. Some learners who were interviewed in English switched to Indonesian when communication broke down.

Table 3.7 Learners' chosen interview language

	Pseudonym	Interviewed in
Study A	Ann	Indonesian
	Vera	Indonesian
	Pete	English
	Heidi	Indonesian
	Hector	English
	Ivy	Indonesian
	Rita	English
Study B	Roy	English
	Bob	English
	Naomi	English

	Macy	Indonesian
	Nada	English
	Wina	Indonesian
	Ava	Indonesian
	Kerri	Indonesian
	Prue	Indonesian
	Devi	Indonesian
	Amy	English
	Daisy	Indonesian
	Zoe	English
	Rei	Indonesian

First and foremost, I expressed my gratitude for the learners' willingness to be interviewed and tried to establish a relaxed atmosphere by starting with small talk, leading to general questions, and eventually the more specific questions. I realised that my position as the teacher, researcher, and in this case, the interviewer potentially creates an unequal power dynamic. This had the potential to intimidate the interviewees and /or result in answers which do not reflect their true feelings, but what they think the interviewer would want to hear and/or would put them in a positive light (Bryman & Bell, 2003). Therefore, I reassured them of anonymity, encouraged them to open up and highlighted the value of their honest opinions. At the end of the interviews, I thanked them again for their participation in the study, their time for the interview, and gave them the opportunity to ask questions. I also asked whether it would be possible to contact them again in the near future if I had further questions; all of them said yes.

I was the sole transcriber of the interview data. The data in English was transcribed verbatim, including speech errors, pauses and non-verbal utterances, e.g. laughs. The data in Indonesian was translated into English by myself as I was deterred by the cost of hiring a professional translator. Although the absence of a professional translator may affect the validity of the research (Van Nes, Abma, Jonsson, & Deeg, 2010), I felt meaning lost in translation was minimal in my research context as I had the linguistic competence, cultural knowledge of the interviewees and understanding of the study circumstances (Birbili, 2000).

Twinn (1997) argues that the use of a single translator in a study ensures consistency and improves congruency in the whole translation process. Still, in order to strengthen the rigor of the translations, and consequently the data, I engaged an external translator, who was a native speaker of Indonesian in charge of grading a subject called Indonesian as a Foreign Language in the Cambridge IGCSE examination, to check a small sample of my translation. The external translator agreed with my translation and did not suggest any significant changes.

After the interviews were transcribed, I read each transcript carefully. On the rare occasions when I found responses that were not clear, I contacted the learners again (on WhatsApp or LINE, depending on the platform chosen for the initial interview) to ask for clarification and sometimes, further information. This additional information was added to the participants' interview data.

3.9.4 Learners' reflection

Reflections are not only the key to self-directed learning in line with PBL (Ward & Duda, 2014), they also provided feedback on how learners coped with the project and data to answer research question 3. As I was not sure of learners' familiarity with self-reflection, I decided to provide prompts in writing to help them reflect on their learning experience; for example:

- what's your experience like this week?
- did you like the research activity this week (please explain why/why not)?
- did you face any challenges this week (if yes, what were they)?
- did you learn anything this week (if yes, what did you learn)?

Initially I had planned to integrate weekly reflection, but the uptake was low even though I tried to convince learners of the merits of self-reflection and made the process accessible, e.g. by giving numerous platform options (Facebook wall, Facebook messenger, WhatsApp, email) and stating that the reflections could be just a few short sentences. This lack of response was disappointing, but as will be explained in the Ethics section, I could not (and did not want to) pressure learners to reflect if they were not

willing to do it. Nevertheless, a few learners did engage in the reflection activity, either partly (just once or twice) or completely (each time prompts were provided), and this provided insights for research question 3.

3.10 Data analysis

3.10.1 Qualitative content analysis

As described in the previous section, the different research questions were addressed using separate approaches for data collection. I analysed each data set independently from the others using qualitative content analysis. This involves 'the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns' (Hsieh & Shannon, 2005: 1278). Although started as a quantitative research method, qualitative content analysis has now been widely used as a strategy for the analysis of qualitative studies (Cho & Lee, 2014; Elo & Kyngäs, 2008; Erlingsson & Brysiewicz, 2017).

Qualitative content analysis has been portrayed as an easy approach which leads to simple results (Vaismoradi, Turunen, & Bondas, 2013). However, regardless of the methods used, simplistic results are unavoidable if the skills of analysis are lacking (Weber, 1990). As long as the researcher is clear and explicit about their actions and conduct the analysis with rigour, qualitative content analysis can produce robust outcomes (Vaismoradi et al., 2013). The final outcome (highest level of abstraction for reporting results) of qualitative content analysis can be *categories* or *themes* depending on the study's aim (Erlingsson & Brysiewicz, 2017). *Categories* refer to an expression of the literal content of data, while *themes* are the expression of the underlying meaning of content (Erlingsson & Brysiewicz, 2017; Vaismoradi et al., 2013).

Qualitative content analysis has many similarities with thematic analysis; for example, they both involve the identification, analysis, and report of patterns within data (Vaismoradi et al., 2013). However, the former allows the analysis of data both qualitatively (with descriptive approach in coding and interpretation of data) and at the same time quantify the data (by providing a quantitative description of the manifest

content of data) (Cho & Lee, 2014; Vaismoradi et al., 2013). I considered quantifying the data useful in my thesis. I could then, for example, count learners' and teacher's rates of participation and contribution (presented in Section 4.2), as well as count how many times who spoke to whom when analysing interaction between participants in my study. On the other hand, thematic analysis provides a purely qualitative account of the data (Braun & Clarke, 2006).

Besides the possibility to quantify data for the purposes of measuring participation and contribution in my study, there were three other reasons why I chose qualitative content analysis among the many approaches to qualitative data analysis. Firstly, it aligns with my intent – not to generate new theory (as in Grounded Theory), but to systematically describe the meaning of the data in accordance to the research questions (Cho & Lee, 2014). Secondly, it is suitable for the simple reporting of categories extracted from data in exploratory work where not much is known about a particular phenomenon (Vaismoradi et al., 2013). Lastly, its flexibility enables the extraction of both manifest (surface, literal meaning) and latent (underlying meaning) of content. It also allows for an inductive, deductive, or a combination of both approaches in data analysis (Cho & Lee, 2014). Inductive analysis is used when there is a lack of former knowledge about the phenomenon, and the categories the derived directly from the data. Meanwhile, deductive analysis is used when the objective of the study is to test an existing theory or retest existing categories in a new context. It starts with predetermined codes or categories derived from previous theory, research, or literature (Cho & Lee, 2014; Elo & Kyngäs, 2008; Hsieh & Shannon, 2005; Vaismoradi et al., 2013). The next section explains the use of inductive, deductive, or mixed techniques in relation to my research questions and the existing knowledge in the area of investigation.

3.10.1.1 Data analysis methods addressing research question 1

'What happens when project-based language learning is implemented online in a non-formal education context?'

Due to a paucity of literature on the implementation of PBLL in non-formal contexts, the question was intentionally phrased broadly to allow the emergence of aspects of practice

that were not expected. This required open analysis to allow complete exploration of the data and thus I first analysed the data inductively.

After a list of codes and eventually categories were derived from the online data and research diary, I decided to modify these into the following sub-questions (the process of which will be explained in Section 3.10.2.2):

a. To what extent do learners and the teacher participate and contribute?
b. How do learners and the teacher interact with each other?
c. How do learners and the teacher use Web 2.0 tools?
d. What obstacles do learners encounter?
e. How does the teacher support learners?

These sub-questions brought an explicit focus in answering the broad overarching question.

Although I strove to truly be led by the data, I acknowledged that my experience as the teacher in this study, as well as my previous knowledge about the subject under investigation, have affected the categories I identified during the data analysis process. Subsequently, this has had an impact on the sub-questions created under research question 1. For example, as the teacher in this study, I could not help but notice that many of the participants were very passive and the majority of interaction was initiated and heavily-centred on me. This, coupled with my knowledge of online interaction patterns, could have sensitised me to interaction patterns occurring in my study, which resulted in sub-question b. As a result, with regards to sub-question b, in addition to inductive analysis, I decided to also conduct a deductive analysis using Storch's model (2002; see Section 2.5.2). The other four sub-questions (a, c, d, and e) were only analysed inductively.

3.10.1.2 Data analysis methods addressing research question 2

'What language learning opportunities does online non-formal project-based language learning afford learners?'

This question examined online PBLL's potential for language learning using qualitative evidence. Inspired by Leahy (2011), I used propositions anchored in interactionist and sociocultural theories of second language learning to guide my analysis. This meant data were analysed deductively. I examined online data and looked for instances of micro-language events to show 'occurrences which could point towards moments in which language learning is likely' (Leahy 2011: 117). The micro-language events include: form-focused instruction (FFI); peer review; social interaction; as well as collaborative dialogue and language-related episodes (LREs) (see Section 2.3.1).

3.10.1.3 Data analysis methods addressing research question 3

'What are Indonesian learners' views on their online non-formal project-based language learning experience?'

Interview transcripts and learners' reflections were analysed inductively to allow the emergence of categories that might not have occurred had I chosen to use interview questions and reflection prompts as pre-existing coding frames.

I experimented with two different analytic procedures. First, I analysed interview transcripts and learners' reflections from Study A deductively using interview questions and reflection prompts as a pre-existing coding frame. Second, I reviewed the data again and analysed the data inductively. On balance, the second approach yielded richer insights as it allowed emergence of themes that were not expected. In my view, the inductive analysis was more successful. After Study B was completed, I decided to only analyse the interview transcripts and learners' reflection inductively as this was the more appropriate analysis method for research question 3.

A summary of the data analysis methods for each research question is provided in Table 3.8.

Table 3.8 Summary of data analysis methods for each research question

Research question	Sub-questions	Qualitative content analysis

		Inductive	Deductive
1	a	✓	
	b	✓	✓
	c	✓	
	d	✓	
	e	✓	
2			✓
3		✓	

3.10.2 Qualitative content analysis process

My analysis broadly followed the stages depicted in Figure 3.1, which I constructed based on the process of qualitative content analysis described in (Cho & Lee, 2014; Elo & Kyngäs, 2008; Erlingsson & Brysiewicz, 2017; Hsieh & Shannon, 2005). Although the stages are presented as a sequence, the analysis process was not linear. It involved re-coding and re-categorising of data until I was satisfied with the categories.

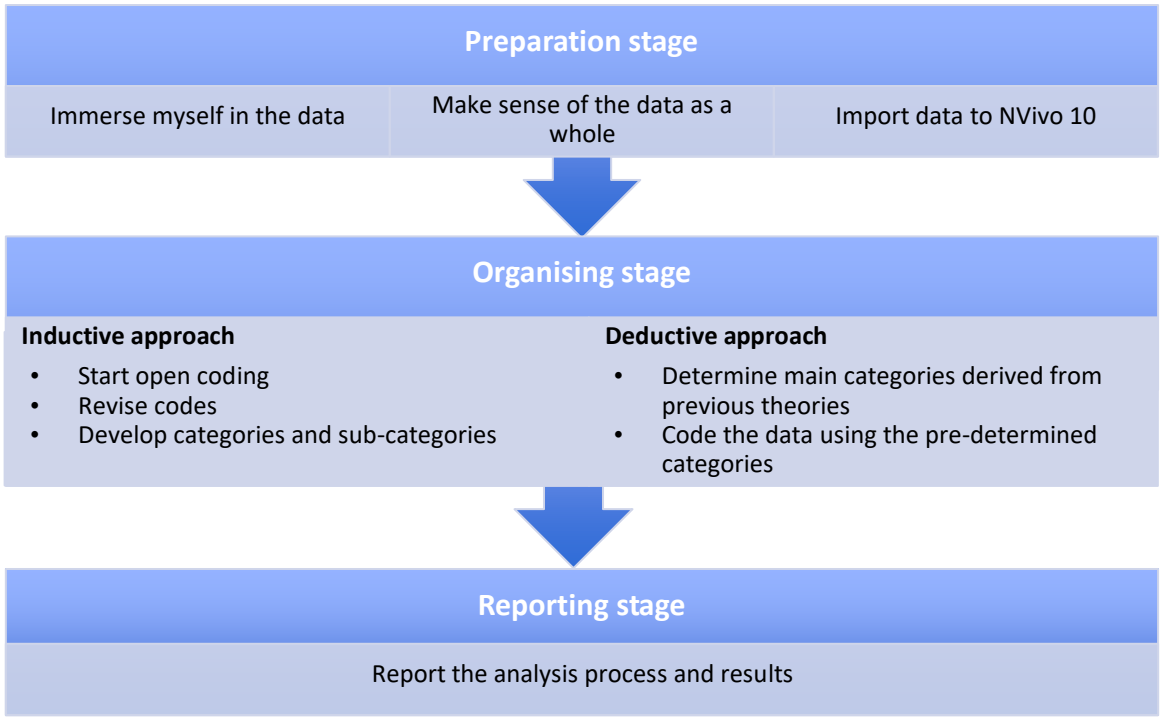


Figure 3.2 Process of qualitative content analysis

3.10.2.1 Preparation stage

I read all data several times until I obtained the sense of the whole content. At this point the data was still in its original form, i.e. Facebook, WhatsApp, GD data as shown on my browser, LINE data as shown on my mobile phone, interview transcripts and researcher diary on Microsoft Word, and learners' reflections in their original form, be it as emails, Facebook posts, or WhatsApp posts. Then, I imported the data to *NVivo 10*, a qualitative data analysis software. Facebook posts were 'captured' using *NCapture*, a web browser extension developed by QSR International, the same company that produces NVivo. Interview transcripts in Microsoft Word were imported as a document file to NVivo. As for the rest of the data, some format changes were needed before it could be imported to NVivo:

- GD data was saved in PDF format;
- WhatsApp data was copied and pasted into Microsoft Word;
- LINE data (on my mobile phone) was saved as screenshots. I then emailed the screenshots to myself and saved them as PDF;
- Research diary, which consisted of one big table in Microsoft Word, had to be saved as PDF because text tables in Microsoft Word did not seem to work on NVivo.

3.10.2.2 Organising stage

3.10.2.2.1 Inductive approach

I began open coding by creating descriptive labels for ideas, which could be obtained from a sentence, sentences, or a whole paragraph with one main meaning. Once all the data had been coded, I examined all data within a particular code. This was followed by grouping similar codes into categories and sub-categories, revised, and refined them until the categories were mutually exclusive.

For example, with regards to research question 1, when analysing Group B3's WhatsApp data:

- I first created codes such as 'learners had poor internet connection', 'learners ran out of data allowance', 'learners were very busy', and 'learners had exams';

- After all online data (including data from the other groups) and research diary were coded, I decided to combine 'learners had poor internet connection' and 'learners ran out of data allowance' into 'learners had internet issues';
- 'Learners had internet issues' was then combined with other codes, such as 'learners had difficulty using (other) tools to create their output' and 'learners did not know how to use GD' (from other data set, i.e. private WhatsApp chat with Daisy and group B3's WhatsApp chat) into a sub-category 'learners had technological issues';
- Meanwhile, 'learners were very busy', 'learners had exams', and other codes of similar nature were combined into a sub-category 'learners had other commitments outside the project';
- Finally, the sub-categories 'learners had technological issues' and 'learners had other commitments outside the project' were developed into an overarching category 'obstacles learners faced in online non-formal PBLL', which was subsequently turned into sub-question c in research question 1, i.e. what obstacles do learners face in online non-formal PBLL?

Table 3.9 shows data extracts which were coded inductively in the manner presented above.

Table 3.9 Organising stage – inductive analysis

Main category: OBSTACLES LEARNERS FACED IN ONLINE NON-FORMAL PBLL				
Data source	Highlighted text in NVivo	Codes	Revised codes	Sub-categories
WhatsApp (B3)	[14:27, 10/9/2016] Devi: Aaaakkk sorry it raining hard in Malang. I have some trouble with my internet connection. Sorryyyyyyy	Learners had poor internet connection	Learners had internet issues	Learners had technological issues
	[04:44, 10/11/2016] Devi: Me, not yet kerri. I have bad connection here, maybe i can edit the GD when i already in campus at 3 p.m. is it ok?	Learners had poor internet connection		
	[06:56, 10/13/2016] Kerri: I wanna try.. but have problem with internet connection here..	Learners had poor internet connection		
	[04:23, 10/7/2016] Kerri: …. Ps: sorry for the slow reply, I'm running out of Internet data.. hihi I'm using Wifi.	Learners ran out of data allowance		
	[06:40, 10/13/2016] Kerri: I'm waiting for devi and prue.. cos I dont know how to crrate an mp3, or a good music video for kids..	Learners had difficulty using (other) tools to create their output		
	[07:12, 10/13/2016] Kerri: Yupp!! I already made an account.. But I need a good internet connection... and maybe a laptop.. I am at campus now, and I can use wifi here.. Anyone of you know how to create a melody? [07:12, 10/13/2016] Kerri: Using an android tablet? [07:14, 10/13/2016] Devi: Not really. I never use apps for create music	Learners had difficulty using (other) tools to create their output		
	[07:26, 10/13/2016] JJ: i love this idea! Does anyone know how to digitally edit the recording? [07:27, 10/13/2016] Kerri: Of course, i don't 😊😄😄😁😁	Learners had difficulty using (other) tools to create their output		

WhatsApp (Daisy)	[11:46, 10/31/2016] Daisy: I can't open google document. But I don't know, why it's happen :-) [11:48, 10/31/2016] JJ: Hi Daisy you've never been able to open GD from the start or just in the last few days? [13:00, 10/31/2016] Daisy: It's right. Previously, I never able to open, use GD & don't know how to operation of GD. Hehehe :-D	Learners did not know how to use GD		
WhatsApp (B2)	Wina: Hi ava how I can see what you wrote in GD hehe sorry i don't understand to use GD	Learners did not know how to use GD		
WhatsApp (B3)	[06:09, 10/7/2016] Prue: Absolutely agree Je.. Ps. Sorry slow response.. I get something to do... Preparing my essay and teaching demo for my exams	Learners were very busy		Learners had other commitments outside the project
	[03:53, 10/9/2016] Devi: Sorry for replying soooooo late. There's an event i should done yesterday . so sorry 🙇 😇 sure. we can start at 7 p.m	Learners were very busy		
	[07:07, 10/13/2016] Devi: Hello everyone! So sorry for my absence. I still have to create my product prototype for my project yesterday. So sorry. But i agree with our song's revision~	Learners were very busy		
	[03:59, 10/15/2016] Kerri: Really sorry... ^^ Pretty busy today.. heuu..	Learners were very busy		
	[12:14, 10/9/2016] Prue: But guys, I can finish it tonight, bz Im going to have my exams tomorrow, "writing"	Learners had exams		
	[17:04, 10/11/2016] JJ: how's your exam going [17:10, 10/11/2016] Prue: Thank God everything is running smoothly. And tomorrow I will have Morphology & syntax. The hardest ones	Learners had exams		
	[08:16, 10/12/2016] Prue: Hi kerri and devi.. Preparing some materials for my last exam tomorrow, I can't join now, I have to deal with this..	Learners had exams		
	[05:33, 10/15/2016] Kerri: Thank youu.. honestly.. I have a test this evening.. 😂😂😂😂😂 sounds strange right..	Learners had exams		

3.10.2.2.2 Deductive approach

Deductive content analysis was a straight-forward process because there was no refinement of codes and categories. For example, in research question 2, the main category (i.e. indicators of L2 learning) and four sub-categories (i.e. FFI; peer review; social interaction; and collaborative dialogue / language-related episodes) had been determined prior to the analysis process. Table 3.10 shows an example of data from Study B that were coded as *peer review*.

Table 3.10 Organising stage – deductive analysis

Main category: LANGUAGE LEARNING OPPORTUNITIES AFFORDED BY ONLINE NON-FORMAL PBLL		
Data source	Highlighted text in NVivo	Codes (which also forms the sub-categories)
GD Intergroup feedback (in the form of Comments)	it's better if you dont overuse "the"	Peer review
	i think the full stop here is inappropriate. you can link these clause by comma.	
	imo, two verbs cannot stand side by side unless the last one is in to infinitive form. you can use this form instead "he seemed to ignore it"	
	from what i read in your text,the story focused on a boy.so i think it's better to make all the choices' subject single	
	maybe you can change "as follows" with another words? bcs imo it doesnt make sense	
	i think "and" sounds better than "then"	
GD Intergroup feedback (text in blue showed corrections made by Bob directly on Group B2's draft)	At one night didi woke up because the teeth are more excruciating pain. then he immediately got out of bed and go knock on his parents' bedroom quickly. his parents was shocked and immediately asked condition of his teeth. it turns out there is a hole in his molar teeth and it hurt like hell. he was crying in pain. his mother told him not to eat sweets and chocolate again. the next morning he goes to dental medicine and check his teeth turned out he must losing his teeth again doctor said. he was shocked and cried because his teeth will be revoked.	
GD Group B2 (text in purple showed corrections made by Nada directly on her group's draft)	When ~~do you think the most often time people forget to~~does someone should brush their teeth after eating sweets at night? A. bedtime B. morning C. before the bath	

	D. before playing	

3.10.2.3 Reporting stage

During this stage, I described the process of analysis and produced a report which included relevant data extracts to provide a coherent story of the data and their analysis, within and across categories.

3.11 Ethical considerations

To ensure an ethical research, I considered both the *macroethics* and *microethics* of research practice (Guillemin & Gillam, 2004; Kubanyiova, 2008). Kubanyiova (2008: 504) describes macroethics as 'the procedural ethics of Institutional Review Board protocols based on general ethical principles' and microethics as 'everyday ethical dilemmas that arise from the specific roles and responsibilities that researchers and research participants adopt in specific research contexts'.

3.11.1 Macroethics

At the macro level, I submitted a research proposal that was approved by the Human Research Ethics Committee at the Open University (approval number HREC/2016/2313/Sampurna). In my research I adhered to three main principles – namely respect for persons, beneficence, and justice – that set the moral standards for research involving humans (Kubanyiova, 2008; Orb, Eisenhauer, & Wynaden, 2000)

3.11.1.1 Respect for persons

This was realised by giving potential participants detailed information about the research, what was expected of them if they decided to participate, the opportunity to ask questions before making their decision, asking them to give informed consent, allowing them to withdraw from the study at any time, and ensuring confidentiality and anonymity by using pseudonyms. I could not conceive of any serious risk of physical or emotional harm arising from the study, but I actively looked out for any signs of anxiety or distress during the study and interviews.

As mentioned in Section 3.6 (Sampling), noticing that three learners had stopped posting or contributing in any way, I dealt with the issue sensitively by approaching each learner privately. At first, I asked if they were well and said that I had not heard from them recently. One stated she was preoccupied with university workload, so I was empathetic and reassured her that I understood her situation. When she decided to withdraw, I thanked her for letting me know and wished her success in her study. The other two learners did not respond and I respected their silence. I did not initiate further contact although if at any point during the research they had resumed communication, I would have welcomed this. There were no signs of distress in the interviews; but had this occurred, I would have tactfully diverted the question that I felt was making the interviewee uncomfortable or stopped the interview.

3.11.1.2 Beneficence

I carefully weighed potential risks and benefits for individual participants and/or society. The probability of harm as a result of participating in this study was low but I acknowledged that misunderstandings may occur when people work together, especially between unacquainted individuals. Participants could disagree with each other and make offensive comments. However, this is a natural part of life and most people are subjected to such risks on a daily basis even if they are not participating in my research. To minimise risks, I constantly monitored participants' interaction during the study and was ready to take actions to resolve any problems if the need to do so had arisen.

As for benefits of participating in the research, participants had the opportunity to use English for a meaningful purpose, they got to know people with similar interests and were able to collaborate with these new peers, practised decision making, problem solving, and reflecting on their learning. It was likely that this experience would benefit them as language learners both in the short and long run. I have years of experience teaching English and used this to guide them throughout the project. In addition, the artefacts produced at the end of my study may potentially benefit society more generally, i.e. Indonesian (and non-Indonesian) children wanting to learn English, as they will be able to use the website content created by participants.

3.11.1.3 Justice

I strove to be fair to research and avoided exploitation of participants. I realised that the needs of participants should come before the research objectives. Thus, when some participants mentioned they would not be able to contribute for some time – be it because of university commitments, illness, or even a party – I made sure they did not feel guilty by expressing that I understood their situation, that they should always put their university studies and private engagements first, and that they were always welcome to join back when they were ready to do so.

Kubanyiova (2008) and Guillemin and Gilam (2004) argue that conforming to general macroethical criteria does not automatically guarantee an ethical research; researchers need to recognise the uniqueness of each research context and respond to immediate ethical issues that arise during research 'for which macroethical principles may hold ambiguous, contradictory, or no answers at all' (Kubanyiova 2008: 506). My attempt to address the more fine-grained, contextual microethics is described next.

3.11.2 Microethics

High quality research is generally associated with a well-constructed research design. My data collection tools (which are described in more detail in my Data Collection Methods section) included weekly learner reflection throughout the project. There are two fundamentally different aspects of reflection. Firstly, it is considered fundamental in the learning process (Dewey, 1910; Kolb, 1984). Secondly, it is often used to gain qualitative information in PBLL research (Beckett, 2005; Fushino, 2011; Liyana et al., 2015). In my research context, learners' reflections not only benefitted the participants themselves, but it also provided me with an emic view of their PBLL experience, which served as invaluable feedback on how they coped with the project and enabled myself as their teacher to adjust my support accordingly.

I frequently encouraged participants to reflect on their learning experience. Nevertheless, I soon realised that there was little uptake and the majority of participants ignored my prompts. I deduced from their contribution and what was stated in their posts, (but could not confirm until interviews were conducted at the end of the study) that some participants were too busy, not used to reflecting, or simply did not want to reflect. For

example, Nada explained to me in her private WhatsApp chat: ('I am just not good at expressing things in writing. Even trying to answer your question in facebook about what I learn in the first week is not easy' – WhatsApp private chat, 16/10/2016).

Although I believe that learner reflection is beneficial for both learners' own development as critical thinkers and providing me with potentially invaluable data, I decided that the principles of *respect for persons* and *justice* had to be made a priority. This meant that standards of rigour were somewhat compromised as I ended up without weekly learners' reflection from all participants planned in my research design. In Nada's situation, I tried to encourage her in a friendly way: ('I know writing is not easy, but honestly you don't need to write a lot if it's hard, just 1-2 sentences will do :) what you just wrote above is actually the kind of reflection i was looking for ahahah' – WhatsApp private chat, 16/10/2016). However, in the following weeks she continued not to reflect and I chose not to elicit more reflection as I did not want her to feel uncomfortable or pressured to do something she was not prepared to do.

Another example of an ethical dilemma I faced concerned the extent to which research details should be revealed to participants. I gave a general description and main objectives of the study in the email invitation (Appendix B) and WhatsApp invitation (Appendix C), which then took learners to a webpage, where they could find more explanation about the project. However, I did not elaborate on its detail. I did feel uncomfortable for not being completely open about layers of enquiry of my research but I thought it was necessary so as 'not to prejudice the research by signalling in the framing of the information the researcher's expectations' (Holloway & Jefferson, 2000: 86). Participants knew that they were expected to collaborate with their peers, but were not aware that *how* they worked together was a research interest of mine.

This became an issue when Roy, a very active participant in Study B, insisted on dividing work amongst his group and doing his share individually. Monitoring the group, I was taken aback and faced the dilemma of being sensitive to my participants' wishes or pursuing my research aims. I wanted to respect his wishes and avoid imposing my own agenda, i.e. to force him to collaborate with others rather than cooperate, as it was an integral element in my research treatment. Nevertheless, this approach would have

affected the three other participants in his group, who had not stated their preference for group or individual work, and might have benefited from the collaborative experience. Considering these conflicting views, I decided to tell everyone in the group that the essence of the research was the collaborative process, not necessarily how good their artefact was. Afterwards, he sent me an email apologising for his preference to work individually ('I'd like to say sorry if sometimes I act individually or maybe I forced the group to use my idea. That's my bad habit tbh, and it came for my experience doing group work at university and high school' – email communication, 12/20/2016)) and expressing his irritation at the lack of contribution from the rest of his group ('To be frankly, Naomi and Macy inactivity kinda pissed me off so, well, sorry for that…' – email communication, 12/20/2016). Sensing his distress, I calmed him down by empathising with him, praising his positive influence on his group, his attempts to engage his team in a more collaborative effort, and stating that I would keep encouraging his group. He responded positively ('… So I hope by working with them and by encourage them to be more active, by the end of this project I can get rid (or at least minimise) that bad habit of mine. Bcs I know there will be a time when I can't solve all the problem by myself. Thank you, JJ! :D' – email communication, 12/20/2016) and continued to be a positive driving force in his group until the end of the study. So in this instance, although Roy's wish to work alone did not materialise, principles of *respect for persons* and *beneficence* were still upheld; Roy was able to see the value of collaboration and his group mates were able to experience the intended research treatment.

In sum, I have given ethical issues serious consideration and I have acted as ethically as I possibly could both at a macro and micro level.

3.12 Researcher positionality

As an interpretive researcher I recognise that my positionality or world-view, regarding the nature of social reality (ontological assumptions), the nature of knowledge (epistemological assumptions) and assumptions about human nature and agency (Sikes, 2004), is coloured by values and beliefs such as gender, class, and other constructs (Denzin & Lincoln, 2003), all of which have the potential to influence the research process and its findings (Bourke, 2014). Thus, it is necessary to outline my own prejudices,

assumptions, experiences, and values to allow readers to make their own informed judgement of my research, including its validity.

I am a 38-year-old Indonesian female who experienced Indonesian education until secondary school. I started learning English using the traditional Grammar Translation method when it was introduced at school in year four. In the same year, my mother decided I needed to take extra English courses and I was enrolled at a private language centre, where I was taught by an Indonesian teacher also using Grammar Translation approach, but with more exciting materials, such as colourful books with illustrations, gradually moving to listening to English songs played on compact discs as opposed to the black and white textbook used at school. Compared to my classmates who did not take extra English classes outside school, I progressed faster.

Since my secondary school graduation, I have studied in Australia and China as well as worked as an English teacher in Vietnam, Indonesia and England. Working and socialising with international colleagues and students have shaped my appreciation for subjective multiple realities. For example, I became aware of how contemporary issues are perceived differently by others around me. When working as a teacher, reflecting was a regular part of my practice, although admittedly more often when there was a problem than when things were going well. I was constantly asking what I could have done better, be it in my lessons or relationship with my students. I realised teaching is complex and there is probably no one universal solution to all issues.

Although I was the teacher/researcher in my study, I did not think I had control or power over my participants. They were fully aware that whatever they did (or did not do) in the research would have no adverse consequences. Still, some participants may have viewed me as a figure of authority as teachers generally occupy a respected position in Indonesian society. My status as a researcher could well have affected the decisions I made as the teacher in the study. For example, as mentioned in Section 3.11.2, when Nada declared that she could not do reflection because she was not good at writing, I decided to give encouragement but did not push further when she did not show willingness to try. I believed it was the right ethical decision: to avoid pressuring participants, which could result in psychological harm. However, had I been a teacher in

my ‘normal’ class outside a research context, I am not sure I would have taken the same stance. Because I recognise the value of reflection in my professional life, I probably would have been far more persistent in giving students in my ‘normal’ class encouragement to give it a try as I believe that they would eventually benefit from the activity.

How I supported learners throughout the project was also influenced by my role as the teacher/researcher. Indeed, as a teacher I always assume responsibility for helping learners reach their goals (and pass their exams). In this study, I put even more pressure on myself to help learners accomplish the task (produce their chosen artefact) as I was one of the key factors in the success or failure of the project. For instance, I once woke up in the middle of the night to observe an ongoing discussion, which took place in the afternoon in Indonesian time. Realising that learners in this particular group were not challenging themselves enough, I decided to intervene with the aim of persuading learners to choose an artefact that could stretch their interlanguage more so that they ‘operate at the outer limits of their current abilities’ (Long, 1989: 13). Facilitating learners in the middle of the night highlighted the fact that I went above and beyond the call of duty; I would not have done the same thing in my ‘normal’ classroom. Another example of how my dual role as a teacher/researcher affected my actions was in relation to weekend tasks. In my usual classroom, I tend to give homework over the weekend to keep learners productive. However, in this study I refrained from doing so as I was aware of the non-formal nature of the project. Also, I was worried that too much work would be taxing for the participants, which could subsequently lead to withdrawal. I believe that my concern over the rate of drop-out among participants, combined with the knowledge that this study was situated in non-formal contexts, led to a lighter student workload.

As the teacher/researcher, I was always close to the participants and my suggestions, prompts, and response to the participants’ enquiry became part of recorded data. Even though I was keen to assume a facilitator role and let participants take charge of their own learning, I ended up being the leader of the project. I received sensible suggestions from the participants in my first study on how to improve the next study and was eager to adopt them. However, faced with the passivity of participants in my second study, I was unable to implement changes and remained the driving force that kept the project going.

As an Indonesian, I regarded my position to be that of an insider possessing some familiarity of my participants, i.e. just like them, I was born and bred in Indonesia. Having said that, I am also an outsider because I never experienced higher education in Indonesia. Moreover, as described in the Introduction chapter, Indonesia is a vast country with numerous local cultures, social classes and educational systems. I was aware of the possibility that my a priori knowledge about learning English in Indonesia was completely different from that of my participants. Thus, I acknowledge that the interpretation of findings is presented from my subjective perspective.

3.13 Trustworthiness of the research

The concepts of reliability and validity to check the robustness or strength of a research are associated with positivist research. Within a qualitative methodology, however, these constructs are 'problematic because they conflict with relativist ontological and epistemological positions' (Twining, Heller, Nussbaum, & Tsai, 2017: A6). Lincoln & Guba (1985) argue that the term *trustworthiness*, consisting of credibility, transferability, dependability, and confirmability, is more suitable for making judgements about rigour in qualitative research.

3.13.1 Credibility (in preference to internal validity)

Credibility is involved in establishing 'how we ensure rigor in the research process and how we communicate to others that we have done so' (Gasson, 2004: 95) through the use of various techniques, four of which were applied in this study.

I conducted *persistent observation* (Lincoln & Guba, 1985) in the two months of study A and B. I interacted with participants regularly and closely observed how the projects progressed, even early in the morning (UK time), as it was afternoon in Indonesian time and some participants were having a discussion. This allowed me to observe their interaction, the decision-making processes, and the project as a whole.

I employed three types of *triangulation* (Denzin, 1989). First, *data triangulation* by gathering data from different participants at different times. I conducted two studies

which were largely similar in implementation, but slightly different in learner dynamics and behaviours. Triangulation of data from across the two studies provided a clearer picture than simply reviewing data from one study. Second, *method triangulation* by using different data collection methods. I crosschecked data in online data (Facebook, WhatsApp, LINE, and GD), research diary, interviews, and learner reflections, which provided more insights on the phenomenon being investigated. Third, *analytic triangulation* or *peer debriefing* by discussing methodology, analyses and emerging findings with my supervisors. This allowed me to check for both the plausibility of, and for blind spots in, my analyses.

I exercised *reflexivity*, i.e. 'thoughtful, analytic self-awareness of researcher's experiences, reasoning, and overall impact throughout the research process' (Råheim et al., 2016: np), which has been described in the Researcher Positionality section above. The transparency of my subjective role in conducting research and analysing data should promote rigour in my research.

Lastly, *member checking* was used as an instrument of validation by asking some participants to elaborate on and clarify what they have said in interviews or done in observed sessions. Occasionally I also shared my interpretations of interviews or observations, and asked participants to comment on them. For example, in her interview, Ivy mentioned that she had never used GD before and struggled with it in the study. However, when analysing WhatsApp data later on, I noticed that I had asked participants whether they would prefer to write their story on GD or WhatsApp. Ivy (and some others) answered that GD would be easier. I was confused at this contradiction so with her permission, I contacted her again and asked why she said *GD is easier I thought* (WhatsApp, Group 1, 12/8/2016) if she had never used it before. Her reply was

> *I just think the name is familiar to me. So I said like that… but when you ask to start write a story on GD. Saya membukanya dan mencoba untuk melihat… tetapi saya merasa asing dengan tampilannya karena kebanyakan menggunakan Ms. Word. Saya tidak kepikiran untuk bertanya cara menggunakanannya atau mempelajarinya dari internet… karena saya merasa malas untuk melakukannya… I'm sorry.* (WhatsApp, private chat, 19/3/2017).

I just think the name is familiar to me. So I said like that… but when you ask to start write a story on GD. I opened it and tried to use it… but I was unfamiliar with the layout because mostly I just used Microsoft Word. It did not cross my mind to ask others how to use it or learn it from the internet because I was lazy… I'm sorry.

Member checking helped me to understand the inconsistency in Ivy's response to my interview question and my observation of WhatsApp data.

3.13.2 Transferability (in preference to external validity or generalisability)

Transferability refers to the degree of which research findings from one qualitative study can be transferred to other contexts (Lincoln & Guba, 1985). I provided thick descriptions of contextual information such as detailed information on contextual research setting, design, processes and participants, so that readers can decide themselves whether/how the findings may be transferred (Houghton, Casey, Shaw, & Murphy, 2013; Shenton, 2004). In addition, I provided a rich presentation of findings with appropriate data extracts such as quotations and screenshots to enhance transferability (Graneheim & Lundman, 2004).

3.13.3 Dependability (in preference to reliability) and confirmability (in preference to objectivity)

Both dependability and confirmability refer to 'the consistency of the data collection instruments and procedures, as well as the detailed description of the research process' (Riazi, 2016: 87). To enhance them, I provided an audit trail in the form of thorough accounts for all research decisions and procedures, which will allow readers to trace the course of the research (Patton, 1990) and discern my methodological and interpretive judgements (Houghton et al., 2013).

3.14 Summary

This chapter described the journey in which an appropriate methodology was developed to deliver answers to my research questions. It positions this thesis within:

- the Applied, Exploratory, and Qualitative continua;
- and the interpretivist and constructivist paradigm.

The sampling process comprised two rounds, namely snowball sampling and volunteers. The complex research procedure was explained in detail and an overview of the project implementation was provided. Particular attention was given to the introduction of additional Web 2.0 tools, which was not planned in the original research design, and in Study B, change of ice-breaker activity, and modification to learners' reflection activity. Data collection methods included online data (Facebook, WhatsApp, GD, LINE), a research diary, semi-structured interviews, and learners' reflections. Data collected were analysed using qualitative content analysis. This chapter then examined both the macroethics and microethics of research practice and how ethical research was ensured. The role of researcher positionality within this research and steps taken to increase the trustworthiness of findings were discussed. Following on from this, the next three chapters will present the results of data analysis for each research question.

Chapter 4 Findings: What happens when project-based language learning is implemented online in a non-formal education context

4.1 Introduction

Chapter Four discusses the findings related to the first research question: What happens when project-based language learning is implemented online in a non-formal education context? This overarching question led to the development of new, more specific sub-questions during the inductive data analysis:

a. To what extent do learners and the teacher participate and contribute?
b. How do learners and the teacher interact with each other?
c. How do learners and the teacher use Web 2.0 tools?
d. What obstacles do learners encounter?
e. How does the teacher support learners?

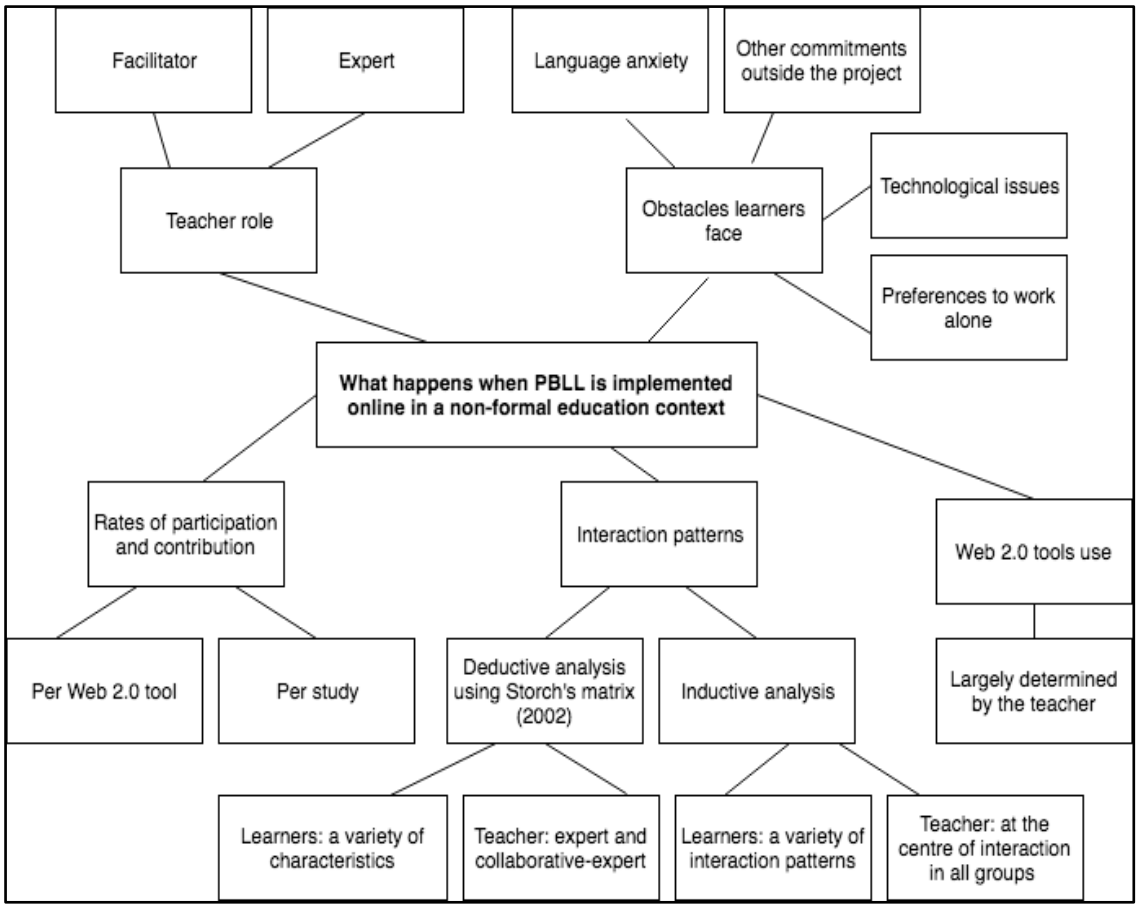


Figure 4.1 What happens when PBLL is implemented online in a non-formal education context

To demonstrate how findings have arisen from the data, extracts from the online data (Facebook, WhatsApp, GD, LINE) and my research diary are included. The findings for sub-question a inform those of sub-question b, which is why the former will be elaborated in detail. Meanwhile, findings for sub-question c have been touched upon in 3.8.1. Thus, the findings for sub-questions b and c are in this chapter presented succinctly to avoid repetition.

4.2 To what extent do learners and the teacher participate and contribute?

Gioia (1987) differentiated between *participation* and *contribution* in a classroom discussion context. I argue that the distinctions between the two concepts are also applicable in online collaborative learning as my data showed evidence of learners who participated (in social interaction), but made no contribution to their group output.

Participation in my study connotes simply taking part in interaction, usually social in nature such as taking part in small talk, apologising for not being able to join a planned group discussion, or sharing information about oneself, without actually making contribution to group artefact. *Contribution*, on the other hand, entails 'intellectual involvement and sharing of knowledge and knowledge construction' (Gioia, 1987: 16), such as taking part in output-related discussions, sharing ideas in brainstorming sessions, writing down, editing, and developing group artefact. Rate of contribution is one of the elements of *equality* in Storch's matrix (2002) (refer to Section 2.5.2), which will be used to answer research question 1, sub-question a in this section.

Participation and contribution can occur through all of the Web 2.0 tools used in this study. For example, on WhatsApp, learners could simply chat about dinner (i.e. participate), but they also used this Web 2.0 tool for brainstorming ideas for their artefact (i.e. contribute). Having said that, learners' output on GD doc is considered as contribution as all their output is related to the creation of group artefact. Although students' contribution to group output is the goal in collaborative learning, I also consider participation in social interaction important to build rapport and a sense of community, especially in situations where learners (and the teacher) are not familiar with each other, as was the case in my study.

To examine the extent of learners' and teacher's participation and contribution, activities in the online data, such as posting, commenting, were tallied. In the next section, the breakdown of participation and contribution observed on each Web 2.0 tool is presented, followed by a closer examination of participation and contribution in each study.

4.2.1 Per Web 2.0 tool

4.2.1.1 Facebook

Facebook postings include *initiating posts* (i.e. starting posts) and *comments* on the posts (i.e. responses to initiating posts). Posts containing only emojis or a single word without much meaning, e.g. *Hi, OK*, were not tallied (Lai, 2014). Facebook 'likes' were not regarded as postings (Kamarudin, 2015).

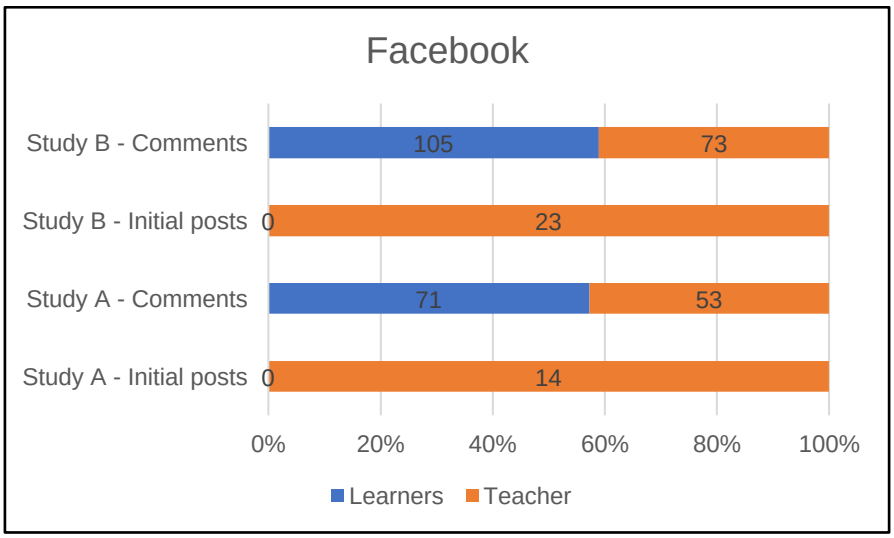


Figure 4.2 Facebook – rates of participation and contribution

In Study A, a total of 138 Facebook postings were made by the learners and me. 71 (51%) were those of the learners' and 67 (49%) were mine. From the postings, 14 were initiating posts, all of which were made by me, and 124 were comments, made by the learners and me.

In Study B, a total of 201 postings were made by the learners and me. Of this, learners made 105 posts (52%) and I made 96 posts (48%). From the postings, 23 were initiating posts, all of which were made by me, and 178 comments, made by the learners and me.

4.2.1.2 WhatsApp

Study A learners and I made a total of 775 WhatsApp *chat entries,* which were identified when participants pressed the enter key and published a message (Cho, 2017), spread across two chat groups: Group A1 and Group A2. 311 of those were the learners' (40%) and 464 were mine (60%). From these, learners made 13 *initiating chat entri*es, i.e. the first chat entry of the day as shown on my devices (UK time), and I made 26. Due to the time differences between England and Indonesia, 9 of the learners' initiating chat entries were in fact responses to a previous conversation and only 5 were entries that started a new topic.

Study B learners and I made a total of 2003 WhatsApp chat entries spread across 5 chat groups: Group B1; B2; B3; B4; and Mixed Group. Learners made 1201 entries (60%) and I made 802 (40%). From the total entries, 33 initiating chats were made by learners, of which 15 were considered replies to previous conversations and 18 were new conversation starters. Meanwhile, I made 56 initiating chat entries.

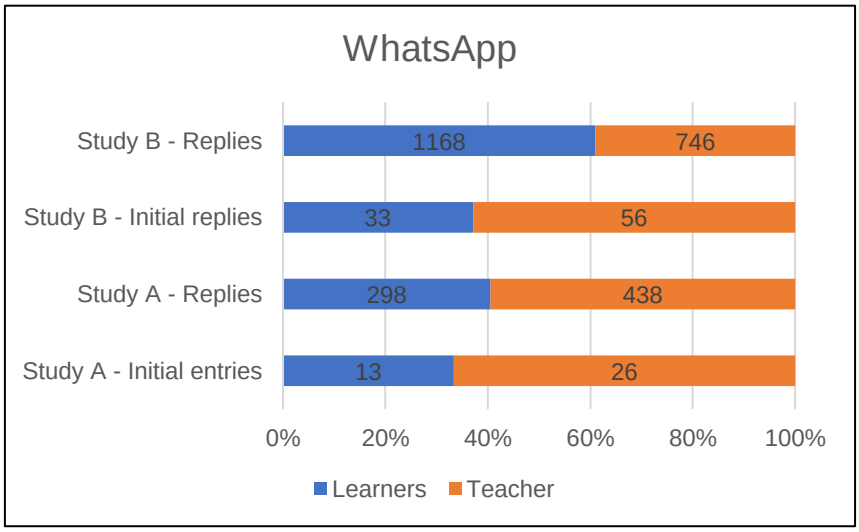


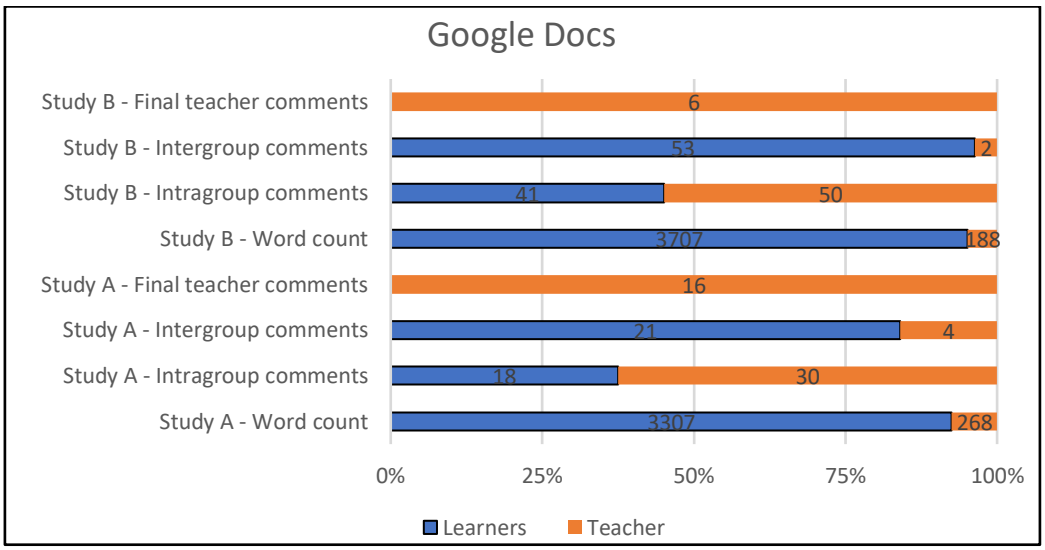
Figure 4.3 WhatsApp– rates of participation and contribution

4.2.1.3 Google Docs

GD revision history was used to examine contributions, which were tallied without distinguishing between content- or language-related output because they were all considered indicators of users' efforts to construct their group's artefact in some way. Firstly, colour-coded words written by each user were counted at the end of each writing or editing session (which was timestamped) (Zheng, Lawrence, Warschauer, & Lin, 2015).

The total word count of the contribution of each user was the number of words accumulated during the creation and subsequent revisions of the artefact.

I did not solely rely on colour-coding when analysing user contribution to GD. Method triangulation by crosschecking WhatsApp, LINE and GD data, highlighted that on three occasions, the colour-coded texts did not show accurate accounts of the author of the contribution. On these three occasions, GD users did not author the texts, but merely copied and pasted other participants' ideas from other sources (WhatsApp or LINE) into GD. For instance, on 19 October 2016, Group B3's GD history showed that I wrote 72 words. However, WhatsApp data revealed that the actual writer of these 72 words was Prue; I simply moved Prue's ideas from WhatsApp to GD so that Prue's ideas were not buried under newer WhatsApp chat entries and her team members could easily follow them up. Thus, in this instance, the 72 words were counted as Prue's contribution even though on GD revision history they were colour-coded as my texts. Secondly, *comments* (consisting of initiating comments and replies) made by each user over the course of the project were tallied. Comments are only visible on the actual GD document but do not show up on GD revision history. Hence, they were treated as separate contribution and not included in GD word count. Thirdly, since in addition to GD documents, Group A1 and Group B1 also used GD chat, their chat entries were also counted.



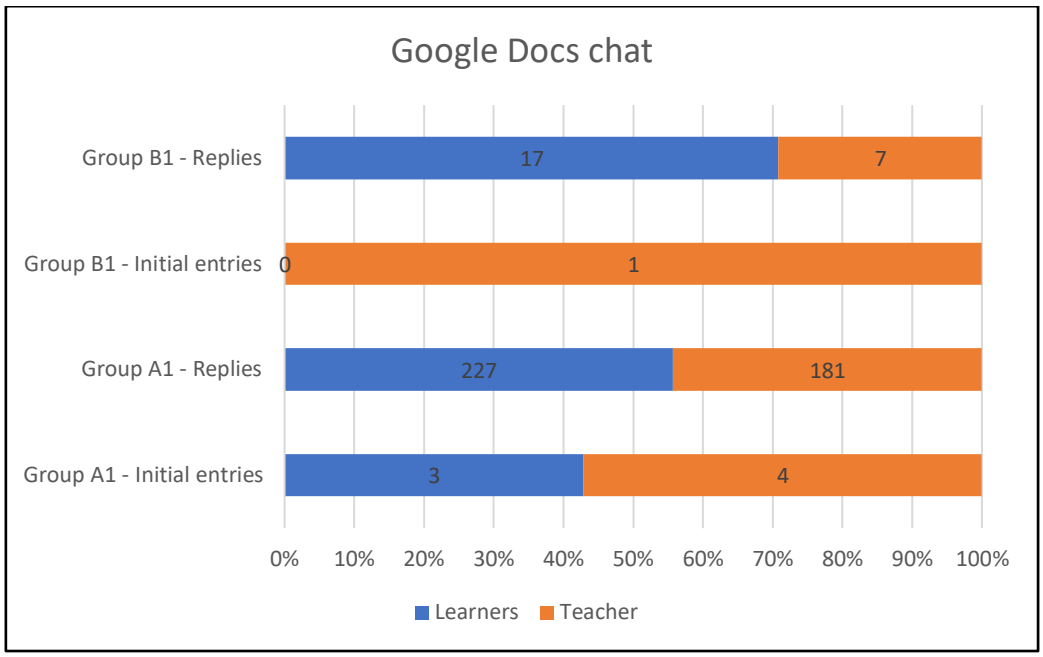


Figure 4.4 GD – rates of participation and contribution

In Study A, learners and I wrote a total of 3575 words (accumulated numbers of words added to GD documents during the course of the project). As can be seen in Figure 4.4, 3307 (92%) of the words were the learners' and 268 were mine (8%). My word count in GD doc excluded teacher corrections given on the last day of the project because in some cases I rewrote learners' artefacts, which would have significantly increased my word count, although in fact my final correction had nothing to do with the *process* of artefact creation. During the drafting process, learners made 18 comments to their own group and I gave 30 comments. In the inter-group feedback session, learners left 21 comments and I made 4 comments. On the final day, I made 16 comments as part of my final teacher feedback. In Group A1's GD chat, there were 408 chat entries, consisting of 227 (56%) learners' entries and 181 (44%) mine.

In Study B, learners and I wrote a total of 3895 words on GD documents, of which 3707 (95%) were the learners' and 188 were mine (5%). During the drafting process, learners made 41 comments to their own group and I gave 50 comments. In the inter-group feedback session, learners left 53 comments and I made 2 comments. On the final day, I made 6 comments as part of my final teacher feedback. In Group B1's GD chat, there were 24 chat entries, consisting of 17 (71%) learners' entries and 7 (29%) mine.

4.2.1.4 LINE

In Study B, Group B4 learners and I made a total of 47 LINE chat entries. Learners made 14 entries (30%) and I made 33 (70%). From the total entries, 15 were initiating chats, all of which were made by me.

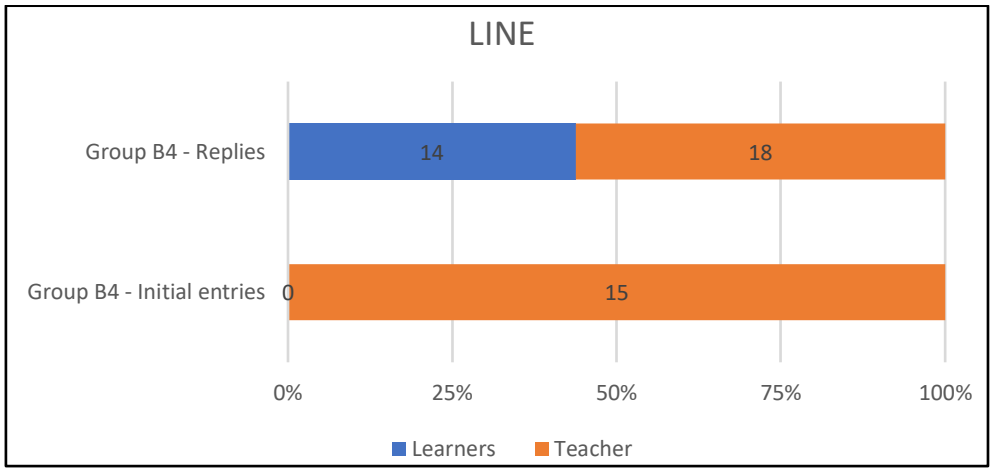


Figure 4.5 LINE – rates of participation and contribution

The overview above has given a general picture on participation and contribution in both studies. Nevertheless, a closer look at each group's visible activities in each Web 2.0 tools revealed that in each group, members' participation and contribution varied. This is described in detail in the following sections.

4.2.2 Per study

This section examines each individual's rate of participation and contribution during the course of each study. As extracts from online data will be presented to support the findings, Table 4.1 below provides a summary of artefacts produced by each group to allow better comprehension of the aforementioned extracts.

Table 4.1 Summary of artefacts produced by each group

Group	Artefact (see Appendix G for each group's final artefacts)
A1	A story and comprehension questions
A2	A story and comprehension questions
B1	Vocabulary game (and an unfinished story; see Section 4.2.2.2)
B2	A story and comprehension questions

B3	Lyrics to two songs and comprehension questions
B4	A story

Note: In order to demonstrate what learners accomplished from their PBLL experience, Appendix G presents each group's final artefacts (copied and pasted from GD) prior to explicit teacher correction and feedback given on the penultimate day of the project. Meanwhile, pbll.online published each group's final artefacts post-teacher correction to provide a good L2 model to young learners.

4.2.2.1 Study A

In Study A, I posted the majority of comments on Facebook and chat entries on WhatsApp, contributing to more than half of the whole instances of communication compared to learners in either Group A1 or Group A2. I not only initiated all Facebook wall posts, but also the majority of WhatsApp entries on a particular day in Group A1 and Group A2 at 75% and 58% respectively. As mentioned in section 4.2.1.2, initiating chats were counted based on the UK timestamps (6-7 hours behind Indonesia) stored and shown on my devices (mobile phone and laptop). Learners in Indonesia generally worked on their project in the evening (usually after 6pm Indonesian time) and occasionally continued until late evening. Thus, sometimes what was marked as initiating chats on my devices were actually responses to previous discussions, not a new conversation topic. In Group A1, out of the 5 WhatsApp initiating entries made by the learners, only 2 were conversation starters (Ann's); in Group A2, 4 out of 8 learners' initiating WhatsApp entries instigated a new topic (Hector's). All of my initiating WhatsApp entries were intended to start the day.

GD revision history revealed that learners were the main contributors to their artefact. My total word count (bar the last day in which I rewrote learners' outputs as part of my final feedback) was 12% in Group A1 (written mostly during the plot writing session in which I acted as a part of the group), as compared to 1% in Group A2 (written mostly to move the results of previous brainstorming session on WhatsApp, I acted as a facilitator) as can be seen in the extracts in Table 4.2.

Table 4.2 Differences in teacher contribution to learners' GD in Study A

Teacher acted as a co-collaborator in Group A1's plot writing	Teacher acted as a facilitator, simply moved Group A2's ideas from previous WhatsApp discussion as a starting point for their writing, without actually contributing much to Group A2's artefact
(4)What the animal will do: Orangutan: pick coconuts from the coconut trees and catapult them into houses Elephant: blow water to the people (its like water cannon) (hahaha indeed) (LOL water canon!) Parrot: scream 'FIRE, FIRE, GET OUT' (or something like that), people inside their house hear the screams and try to get out of their houses (leading to porcupines, see below) Snake:entangle human's feet so they fell down Tiger: stand in the frontline to fight ppl Giraffe: Bear: remove honeycombs from bees' nests; bees chase the honeycombs; bears place the honeycombs in front of people's houses, bees attack ppl Hippopotamus: hide underwater and attack ppl when they crossing the river (surprise attack) Crocodile: Frog: Owl: locating ppl at night time (others animal will attack ppl?) (owl take role as navigator/strategist) Bees: **collaborate** with bears (see bears above)(why is this so funny lol I can't wait for the story to be finished) Porcupines: scatter themselves outside of people's houses, they're everywhere! Once humans open the door, there's no way they can leave their house without stepping on the porcupines and hurt their feet (GD, Group A1, 17/8/2016) (Red: Vera; purple: Ann; blue: Pete; green: me)	Topic: family / animals Setting:...? (GD, Group A2, 13/8/2016) (Green: me)

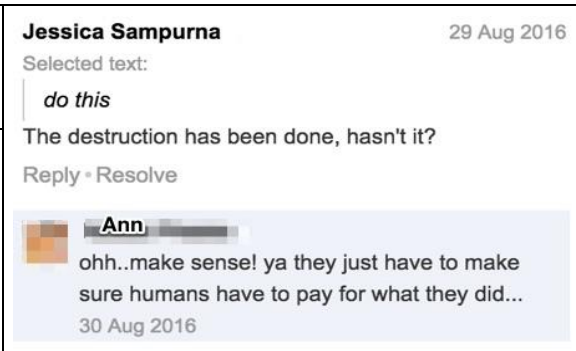
I regularly gave comments to help learners improve their draft. At least 75% of all the comments made during the drafting sessions (prior to intergroup feedback) and the revising session (after intergroup feedback) were made by me.

(GD, Group A1, 17/8/2016)

Example 4.1 Teacher's comments

In the intergroup feedback session, I deliberately refrained from giving too many comments as I wanted learners to practise giving peer feedback, and a small number of learners seized the opportunity. Learners in Group A1 made 72% of all the comments given to Group A2; Group A2 made 100% of all the comments given to Group A1. I occasionally replied to these comments, for example to express agreement with the feedback given by learners.

On the final day of the project (after learners indicated they had finished revising their output), I did two things on GD. First, when I deemed necessary, I rewrote learners' output, especially parts of the artefact which learners had not been able to improve after receiving intergroup feedback and other teacher comments and advice during the drafting and revising process. Second, I also left comments to explain some of the corrections I had made to learners' output so that learners could take their time reading the improved artefact and understanding why the changes were made. The example below shows my correction given on the final day, with the comment explaining why I crossed out the words 'do this', and a learner's reply indicating understanding of my comment.

Suddenly the wise tiger finally spoke out, 'We can't let them do this to get away with what they have done to our land and home!'	
~~Suddenly~~ The wise tiger finally spoke ~~out~~, 'We can't let them ~~do this to~~ get away with what they have done to our land and home!'	

(GD, Group A1, 29/8/2016)

Example 4.2 Final teacher correction and comment

Although this section has given a general picture of participation and contributions made by members of Study A, they collaborated at different levels of participation, with Group A1 showing more evenly distributed contributions made by its members compared to Group A2, as will be explained in the next section.

4.2.2.1.1 Group A1

This section presents rates of participation and contribution made by Group A1 members during the project. Facebook comments, mostly made in Week 1 in the context of getting to know each other and preparing for collaboration, played little part in the actual collaborative process. The data shows that the collaborative process began with learners discussing what artefact the group wanted to create on WhatsApp, which was then followed by work on GD (doc and chat).

Table 4.3 Summary of participation and contribution amongst Group A1 members (learners and I)

Tools	Participation/contribution	Pete	Vera	Ann	Teacher	Total
Facebook	Initiating posts	0 (0%)	0 (0%)	0 (0%)	14 (100%)	14
	Comments	6 (6%)	16 (16%)	27 (26%)	53 (52%)	102
WhatsApp	Initiating entries	1 (5%)	0 (0%)	4 (20%)	15 (75%)	20
	Chat entries	54 (13%)	16 (4%)	105 (24%)	257 (59%)	432

GD doc	Word counts		491 (23%)	486 (23%)	883 (42%)	260 (12%)	2120
	Drafting and revising	Initiating comments to own group	0 (0%)	1 (8%)	2 (17%)	9 (75%)	12
		Replies to comments given by own group	0 (0%)	3 (27%)	1 (9%)	7 (64%)	11
	Intergroup feedback session	Giving comments to Group A2	0 (0%)	3 (27%)	5 (45%)	3 (27%)	11
		Replies to comments given by Group 2	0 (0%)	0 (0%)	0 (0%)	1 (100%)	1
	Teacher feedback (final day)	Comments	0 (0%)	0 (0%)	0 (0%)	13 (100%)	13
		Replies	0 (0%)	0 (0%)	3 (100%)	0 (0%)	3
GD chat	Initiating entries		0 (0%)	0 (0%)	3 (43%)	4 (57%)	7
	Chat entries		99 (24%)	61 (15%)	67 (16%)	181 (44%)	408

All Group A1 team members contributed to the chosen artefact, i.e. story and comprehension questions. Yet, one learner, i.e. Ann, had noticeably higher participation and contribution rates. She was the only learner who initiated new conversation topics on WhatsApp and the number of entries she made on WhatsApp was approximately double that of Pete and six times that of Vera. Similarly, the number of words she wrote on GD doc was almost double that of Pete and Vera. GD revision history also showed she was the first learner in her group to use GD and proactively created the first outline of Group A1's draft.

Topic: animals; deforestation

Setting: (Indonesian?) forest

PS: Hey guys, do check the group chat on the right tab to make it easier <3

General Outlines:

1)animal live happily→ set the scene
2)human come and destroy everything → maybe give a reason? → deforestation for palm oil production?

3)animal gets sad→ difficult to hunt for food, no shelter….
(^does that mean we need to research which part of the forest got affected, and what happened specifically to each kind of animal?)
4)they're fighting back for their home!
5)human accept defeat and apologize for what they did
6)They live happily together side by side

>>can also incorporate stuffs like, what kind of animals exist in the forest, what do they eat, etc at the beginning
>>can always talk about their prominent feature; i.e the birds can throw rocks from the sky,
the monkey will probably set some trap(banana skin!)for the 4th outlines
PS: don't make the jaguar eat the human tho, that's a little bit too gorey(this ain't game of thrones)

(GD, Group A1, 17/8/2016)

(Purple: Ann; green: me)

Example 4.3 Ann had higher participation and contribution rate compared to hear team members

Although my overall word count in Group A1's artefact remained low at 12%, this percentage was in fact the most contribution I made in the two studies, indicating the higher level of intervention or influence I had on Group A1's draft.

In the intergroup feedback session, Ann made 5 comments to Group A2, whilst Vera only gave 3 and Pete did not give any. During GD chat sessions, in which learners simultaneously discussed their output and worked on their document, Ann was the only learner who had ever started dialogues.

4.2.2.1.2 Group A2

Unlike Group A1, only two members of Group A2, i.e. Heidi and Hector, made direct contribution to their artefact. In the rare occasions that Ivy and Rita joined the conversations on WhatsApp, their entries were either short, such as *I like it*, or *totally agree with you*, not related to tasks, or expressed excuses and apologies for not being

active in the group. At times they indicated willingness to make a contribution, but it never materialised. For example, in the following extract, in response to my request, Rita stated she would try to add ideas to the story, but she failed to deliver.

> …
> [15:15, 8/18/2016] JJ: or maybe Rita, would you like to contribute to the story?
> [15:18, 8/18/2016] Heidi: Okay, I'll try ☺
> [15:20, 8/18/2016] Rita: Hi,,, I'm very well
> Thanks....
> You?
> [15:21, 8/18/2016] Rita: Oke I'll try it,,, tomorrow seems I've a spare time
> [15:22, 8/18/2016] Rita: And I'll try to add up something

(WhatsApp, Group 2, 18/8/2016)

(Note: JJ is the teacher's nickname and occasionally show up in other excerpts)

Example 4.4 Teacher encouraged Rita to make a contribution

Heidi single-handedly wrote the outline for Group A2's story, followed by her developing the plot further after receiving comments from Hector and me and writing comprehension questions. After she finished all this, Hector converted the plot into a story and added more questions. As can be seen in the table below, Heidi wrote 38% of the numbers of words in GD, Hector wrote 61%, while Rita and Ivy wrote nothing. Similarly, only Heidi and Hector gave comments to Group A1 (with Hector giving 8 times more feedback than Heidi).

Table 4.4 Summary of participation and contribution amongst Group A2 members

Tools	Participation/contribution	Heidi	Hector	Rita	Ivy	Teacher	Total
Facebook	Initiating posts	0 (0%)	0 (0%)	0 (0%)	0 (0%)	14 (100%)	14
	Comments	3 (4%)	7 (9%)	7 (9%)	5 (7%)	53 (71%)	75
WhatsApp	Initiating entries	1 (5%)	7 (37%)	0 (0%)	0 (0%)	11 (58%)	19
	Chat entries	36 (10%)	64 (19%)	20 (6%)	16 (5%)	207 (60%)	343
GD do	Word counts	560 (38%)	887 (61%)	0 (0%)	0 (0%)	8 (1%)	1455

	Drafting and revising	Initiating comments to own group	0 (0%)	2 (20%)	0 (0%)	0 (0%)	8 (80%)	10
		Replies to comments given by own group	4 (27%)	2 (13%)	3 (20%)	0 (0%)	6 (40%)	15
	Intergroup feedback session	Initiating comments to Group A1	1 (11%)	8 (89%)	0 (0%)	0 (0%)	0 (0%)	9
		Replies to comments given by Group 1	0 (0%)	4 (100%)	0 (0%)	0 (0%)	0 (0%)	4
	Teacher feedback (final day)	Comments	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)	2
		Replies	0 (0%)	2 (67%)	0 (0%)	0 (0%)	1 (33%)	3

4.2.2.2 Study B

Just like in Study A, I was the dominant poster on Facebook. As mentioned before, Facebook was mainly used in the first week of the project when most participants were still getting acquainted with each other. Because of this, perhaps it is not surprising that I was the sole initiator of posts albeit unintentionally. One reason why learners never initiated a Facebook post could be that I never explicitly encouraged them to do so. From week 2 onwards, Facebook was used less frequently compared to WhatsApp and GD. As can be seen on Appendix D (description of project implementation), beginning from week 2, Facebook was mainly used for making announcements or giving updates, which attracted few comments from learners.

Participation in WhatsApp was more encouraging with some learners in Group B1 and Group B3 showing leadership by instigating approximately half of the interactions in their group. In Group B1, 6 out of the 10 initiating WhatsApp entries made by learners started a new conversation topic. In Group B3, the number was 6 out of 13. These groups also showed more equal participation in terms of the number of chat entries. Learners in Group B1 contributed to 59% of the total WhatsApp chat entries and I contributed 41%. Learners' participation on WhatsApp was even higher in Group B3 at 71%, with my entries at 29%. However, the rate of WhatsApp participation amongst learners in Group

B2 and Group B4 was relatively low. In Group B2, 74% of interactions were started by me and 59% of the chats were mine. The figures were 85% and 67% in Group B4. In addition to the individual WhatsApp chat group, Study B learners also had 1 WhatsApp Mixed Group where they could interact with each other across groups. However, the WhatsApp Mixed Group chat appeared to be less successful with me initiating 79% of the entries and making 48% of the total entries. Out of the 14 learners, only 7 made chat entries and their contribution rates were low, from as little as 1% to a maximum of 12%.

Similar to Study A, GD revision histories in Study B showed learners were the main creators of their artefacts with my word count ranging from 0 to 9%. During the drafting and revising process, I initiated the majority of the comments (between 88% and 100%) in Group B1, B2, and B4. Comments given included compliments on learners' efforts and suggestions to improve the content and/or language of learners' artefact. The figure was 42% in Group B3, showing that learners in this group took time to read their peer's work and more frequently left asynchronous comments compared to other groups. In the intergroup feedback session, only three learners, i.e. Roy, Bob (Group B1) and Kerri (Group B3), initiated comments to other groups.

On the final day of Study B, I gave a total 6 comments to 4 groups compared to 16 comments to 2 groups in Study A. I initiated only 1 comment to Group B1, 1 to Group B2, 0 to Group B3, and 4 to Group B4. The simplicity of Group B1's and Group B3's artefacts (both in terms of content and language) meant that the comments I made during the drafting and revising sessions were adequate to help learners improve their outputs. There was no need for me to rewrite their output or give final comments to explain the changes I made in the rewrite. It should be mentioned that Group B1 actually attempted to create two different artefacts: a game, and when they had completed that, a story. However, they ran out of time and only managed to create a basic plot. After careful consideration, I decided to help turn Group B1's plot into a story as an appreciation of their efforts. The story was not published on the project website as I did most of the work.

Group B2 and B4 wrote a story, with Group B2 also adding comprehension questions. As with Study A, I rewrote both outputs. I gave more final teacher comments to Group B4

because I not only made linguistic corrections, but also slightly changed the storyline to make it more coherent. I felt it necessary to point out why the changes were made and hence made the 4 final teacher comments. In Group B2's output, however, I only made linguistic corrections. As one sentence could contain numerous errors, it was difficult to identify and explain all of them. The final comment I made for Group B2 was only to praise learners for their hard work and state that the language corrections were suggestions to make the language in their artefact more accurate.

4.2.2.2.1 Group B1

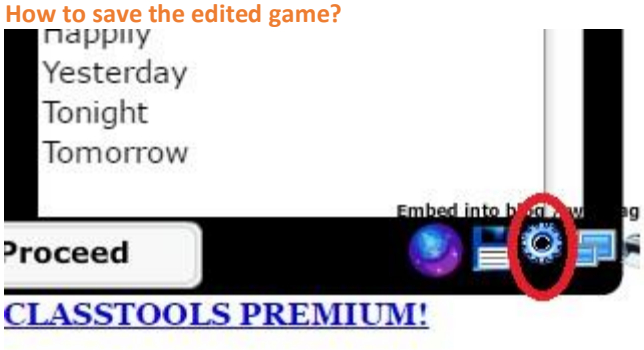
Roy and Bob each made about 25% of the WhatsApp chat entries and I made 40%, whereas Macy and Naomi barely participated in their group chat. On the first day the Group was using GD, as Roy, Bob, and Macy were chatting on WhatsApp, I started a GD chat in order to inform them of an alternative chat platform, which would allow them to work on their output and chat at the same time (without having to switch screens as when using WhatsApp and GD doc). Learners gave it a try but over the following days they reverted to WhatsApp for their chat platform. Thus, WhatsApp was the main tool for discussion with Roy and Bob responsible for a similar number of entries, 26% and 27% respectively.

As can be seen in Table 4.5 below, only two members of Group B1, i.e. Roy and Bob, directly contributed to their team's artefact. Although never officially appointed as the team leader, Roy showed leadership not only by frequently initiating interactions on WhatsApp, but also by facilitating dialogues, giving updates, and giving suggestions on what to do next. In the remaining groups, such actions were primarily taken by the teacher.

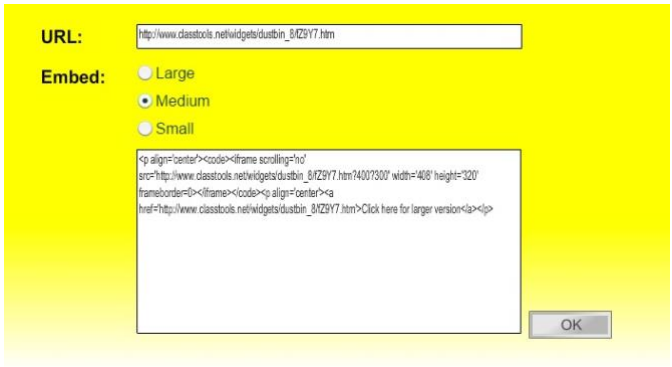
GD revision history showed that Roy contributed to 80% of the total words written by Group B1 (including teacher contributions). This was because, in addition to working on the content of the artefact, he also wrote instructions and updates for his team mates, so they could follow the progress the group was making if they had missed the discussions on WhatsApp or GD chat. The extract below shows one of Roy's contributions, made after the group decided to use a ready-made game template for creating their own language game. He left a list of instructions on how to create the game.

NOTES (read it if you're confused)
What we need to do?
first we add more categories
as you can see for now we only have four
then you can start make the "bin"
make it max 4
after that make the "trash"
put each "trash" in the correct "bin"
it's up to you how many trash you want to make for each "bin"
but make sure we have 40 "trash" for each categories

How to save the edited game?



Click the circled icon.



This window will be showed. Copy the URL and voila! You saved the edited game. Please remember that every time you saved the game, the URL will be changed.

(GD, Group B1, 12/10/2016)

(Orange: Roy)

Example 4.5 Roy giving instructions to his team members, which played a part in his contribution rate

From then on, Roy kept refining his instructions and giving further updates on Group B1's progress, which was why his word count total was very high.

I frequently gave comments during Group B1's drafting and revising sessions. Roy and Bob were the only learners who responded to these comments. They were also the only ones giving feedback to other groups during the intergroup feedback session.

Table 4.5 Summary of participation and contribution amongst Group B1 members

Tools	Participation/contribution		Macy	Roy	Bob	Naomi	Teacher	Total
Facebook	Initiating posts		0 (0%)	0 (0%)	0 (0%)	0 (0%)	23 (100%)	23
	Comments		4 (3%)	19 (16%)	9 (8%)	14 (12%)	73 (61%)	119
WhatsApp	Initiating entries		0 (0%)	7 (35%)	2 (10%)	1 (5%)	10 (50%)	20
	Chat entries		20 (3%)	179 (26%)	188 (27%)	23 (3%)	290 (41%)	700
GD doc	Word counts		38 (3%)	1192 (80%)	203 (14%)	0 (0%)	65 (4%)	1498
	Drafting and revising	Initiating comments to own group	0 (0%)	1 (6%)	0 (0%)	0 (0%)	16 (94%)	17
		Replies to comments given by own group	0 (0%)	7 (39%)	4 (22%)	0 (0%)	7 (39%)	18
	Intergroup feedback session	Initiating comments to other groups	0 (0%)	23 (66%)	12 (34%)	0 (0%)	0 (0%)	35
		Replies to comments given by other groups	0 (0%)	4 (100%)	0 (0%)	0 (0%)	0 (0%)	4
	Teacher feedback (final day)	Comments	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	1
		Replies	0 (0%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	1
GD chat	Initiating entries		0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	1
	Chat entries		4 (17%)	11 (46%)	2 (8%)	0 (0%)	7 (29%)	24

4.2.2.2.2 Group B2

In Group B2, I initiated the majority of WhatsApp chat sessions and made the most number of chat entries. My attempts to engage learners in conversations were often unsuccessful as I received few and short replies. Amongst learners, Ava made considerably more WhatsApp chat entries than Nada and Wina.

Ava was the biggest contributor on GD with 55% of the total word counts attributed to her. Perhaps realising that her team did not participate much on WhatsApp, Ava used GD

not only to share her ideas, but also to encourage her team mates to collaborate by giving various options that they could then follow up.

I thought we need to decide to target this learning to certain ages first, considering that in teaching English~~that~~ different ages require different treatments, methods and also material ~~in teaching English , also it determine the vocabualry level~~ s.

Here I can share you guys my ideas. So, if you find it insufficient, (I would be happy) if you can correct, change or add it.

~~Targe~~Student profile t: band/ class 3 or 4 or 5 of elementary school (any other options ?)

Theme:
(here are the options, you can choose either one or all of them together)

1. Parts of the body
2. Things in the classroom
3. Hobbies
4. Occupation

Skill need to be emphasized: reading, or listening , or speaking, or writing or, Integrated skill (you can choose one)

Output Target:

A. Target structure/ Grammar:(here are the options, you can choose either one or all of them together)

1. Indefinite article: an, a
2. Simple singular and plural forms
3. Simple present tense

B. Target Vocabulary:

1. Parts of the body (e.g.: head, shoulders, knees, etc.)
2. Etc.

Material and Equipments:

1. Text (every single sentence contains present tense)
2. Questions (e.g: reflection about the text, like : the characters, the activity of the character, the color/ shape/ of the things/characters being told)
3. Flashcards and game :(e.g.: matching a picture and the suitable description)
4. Song and song lyric (e.g. filling gaps/ the missing lyrics)
5. Etc.

Activity:

1. Reading the text
2. Answering the questions
3. Paying attention to simplified grammar parts which were summarized in a box (short explanation)
4. Practicing the grammar within the provided exercises
5. Practicing the vocabulary using flashcards or song lyric
6. Etc.

Here, I have highlighted some important elements that we need to pay attention to. I hope this start can give you an insight on how to develop it more. I really need feedback from you guys.

So soon we can take other steps, considering that the time for this project gonna end soon by the end of this month. Thank you.

(GD, Group B2, 14/10/2016. Yellow highlights added to indicate parts where Ava invited her team mates to collaborate).

(Orange: Ava)

Example 4.6 Ava encouraging her team mates to contribute

Ava then announced on WhatsApp that she had written her ideas on GD and asked for feedback from her peers.

[17:46, 10/14/2016] Ava: Hello guys..
[17:46, 10/14/2016] Ava: I wrote some important things in GD
[17:47, 10/14/2016] Ava: I really need your feedback
[17:47, 10/14/2016] Ava: And
[17:48, 10/14/2016] Ava: If you find something wrong, insufficient , i would be happy if you guys can correct it
[17:48, 10/14/2016] Ava: Thank you ☺☺☺

(WhatsApp, Group B2, 14/10/2016)

Example 4.7 Ava showing initiatives

The team mate who responded to Ava's call for collaboration was Wina, who contributed 35% of the words written on GD doc, while the third member, Nada, hardly made any contribution at 2%.

During the drafting and revising sessions, I made most of the comments. These contained suggestions, calls for collaboration, and praise. None of Group B2 members gave feedback to other teams, but Ava did reply to the comments given by other groups 6 times.

Table 4.6 Summary of participation and contribution amongst Group B2 members

Tools	Participation/contribution	Ava	Nada	Wina	Teacher	Total
Face	Initiating posts	0 (0%)	0 (0%)	0 (0%)	23 (100%)	23

	Comments		3 (4%)	5 (6%)	2 (2%)	73 (88%)	83
WhatsApp	Initiating entries		2 (11%)	0 (0%)	3 (16%)	14 (74%)	19
	Chat entries		50 (25%)	15 (8%)	15 (8%)	117 (59%)	197
GD doc	Word counts		711 (55%)	24 (2%)	452 (35%)	111 (9%)	1298
	Drafting and revising	Initiating comments to own group	0 (0%)	0 (0%)	1 (13%)	7 (88%)	8
		Replies to comments given by own group	0	0	0	0	0
	Intergroup feedback session	Initiating comments to other groups	0	0	0	0	0
		Replies to comments given by other groups	6 (100%)	0 (0%)	0 (0%)	0 (0%)	6
	Teacher feedback (final day)	Comments	0 (0%)	0 (0%)	0 (0%)	1 (100%)	1
		Replies	0	0	0	0	0

4.2.2.2.3 Group B3

The rates of participation and contribution on WhatsApp between learners and me were the most equal in Group B3 as compared to other teams in either study. Learners initiated 56% of the interactions on WhatsApp, and they contributed to 71% of the total WhatsApp chat entries. I only made 29% of the total WhatsApp chat entries, the lowest across both studies. Kerri was the most active learner on WhatsApp, instigating 7 of the chat sessions on one particular day (4 of which were new conversations starters) and responsible for 285 chat entries. The second most active learner was Prue, who initiated 4 chat sessions (1 of which started a new topic) and made 208 chat entries. Devi was the least active member with 2 initiating entries (1 of which started a new topic) and 70 chat entries.

Although Devi occasionally participated in Group B3's discussion, she made no direct contribution to the artefact creation on GD. Devi did, however, and made 2 initiating comments by giving suggestions to her peers. Kerri contributed the most with 69% of the word count attributed to her, while Prue contributed 27%. Unlike other groups, Group B3

learners did not rely on only my feedback during drafting and revising sessions. All team members initiated comments to help improve their output. Some of these comments were then followed by replies by own team members and me.

As previously mentioned, Kerri was the only learner in Group B3 who gave feedback to other groups in the intergroup feedback session. Furthermore, she was also the only learner in this group who replied to other group's comments.

Table 4.7 Summary of participation and contribution amongst Group B3 members

Tools	Participation/contribution		Devi	Kerri	Prue	Teacher	Total
Facebook	Initiating posts		0 (0%)	0 (0%)	0 (0%)	23 (100%)	23
	Comments		4 (4%)	21 (20%)	5 (5%)	73 (71%)	103
WhatsApp	Initiating entries		2 (9%)	7 (30%)	4 (17%)	10 (43%)	23
	Chat entries		70 (9%)	285 (36%)	208 (26%)	228 (29%)	791
GD doc	Word counts		1 (0%)	257 (69%)	100 (27%)	12 (3%)	370
	Drafting and revising	Initiating comments to own group	2 (11%)	4 (21%)	5 (26%)	8 (42%)	19
		Replies to comments given by own group	1 (5%)	11 (52%)	3 (14%)	6 (29%)	21
	Intergroup feedback session	Initiating comments to other groups	0 (0%)	4 (100%)	0 (0%)	0 (0%)	4
		Replies to comments given by other groups	0 (0%)	4 (67%)	0 (0%)	2 (33%)	6
	Teacher feedback (final day)	Initiating comments	0	0	0	0	0
		Replies	0	0	0	0	0

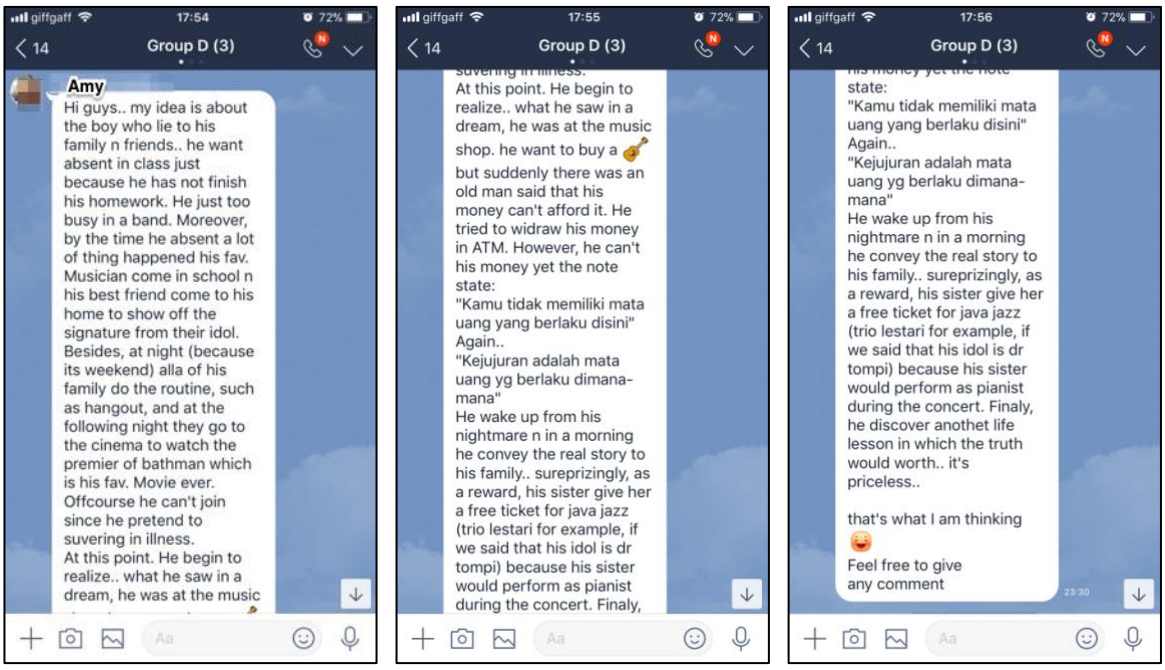
4.2.2.2.4 Group B4

Learners in Group B4 had the lowest WhatsApp participation rate (32%) of all the groups across both studies. Amy was the only learner who initiated WhatsApp entries (two times), but they were actually responses to previous discussions started by me. I initiated

85% of the interactions on WhatsApp and contributed 67% of the total WhatsApp chat entries.

One possible reason for the low learners' WhatsApp participation in Group B4 was the creation of a LINE chat group to accommodate Rei at the end of week 2. The LINE chat group was intended to be the main chat platform for Group B4 thereafter WhatsApp was primarily used to give updates and repeat announcements made on Line and Facebook. Whilst this could explain the low learners' participation rate on WhatsApp, LINE data showed that their participation rate was equally disappointing. Overall, learners in Group B4 were only responsible for 30% of the LINE chat entries as opposed to me who wrote 70%. Rei, who was responsible for the LINE group having been created in the first place, did make the most LINE entries compared to her peers. Still, Rei's contribution was only 15% of the total LINE chat entries. It appeared that learners' participation in group chat remained low at between 2% to 16% regardless of the tools used.

Amy was practically the sole contributor to the group output as she wrote 91% of the total word counts on GD. She alone created the first draft of Group B4's story, which she shared on LINE.



(LINE, Group B4, 14/10/2016)

Example 4.8 Amy being the sole contributor to her group's output

I then asked Group B4 to copy and paste Amy's story to GD, so that they could work on improving it further. Rei responded to my request and edited Amy's story by adding a title, an illustration, an ending statement, and correcting language errors. The rest of the group wrote nothing on GD. I made 5 comments during the drafting and revising sessions: 1 compliment and 4 suggestions to improve the content of the story. Rei replied twice, but did not make a further contribution despite my encouragement.

Table 4.8 Summary of participation and contribution amongst Group B4 members

Tools	Participation/contribution		Amy	Zoe	Daisy	Rei	Teacher	Total
Facebook	Initiating posts		0 (0%)	0 (0%)	0 (0%)	0 (0%)	23 (100%)	23
	Comments		7 (8%)	4 (4%)	4 (4%)	4 (4%)	73 (79%)	92
WhatsApp	Initiating entries		2 (15%)	0 (0%)	0 (0%)	0 (0%)	11 (85%)	13
	Chat entries		12 (14%)	2 (2%)	13 (16%)	0 (0%)	56 (67%)	83
GD doc	Word counts		665 (91%)	0 (0%)	0 (0%)	64 (9%)	0 (0%)	729
	Drafting and revising	Initiating comments to own group	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (100%)	5
		Replies to comments given by own group	0 (0%)	0 (0%)	0 (0%)	2 (67%)	1 (33%)	3
	Intergroup feedback session	Initiating comments to other groups	0	0	0	0	0	0
		Replies to comments given by other groups	0	0	0	0	0	0
	Teacher feedback (final day)	Comments	0 (0%)	0 (0%)	0 (0%)	0 (0%)	4 (100%)	4
		Replies	0	0	0	0	0	0
LINE	Initiating entries		0 (0%)	0 (0%)	0 (0%)	0 (0%)	15 (100%)	15
	Chat entries		5 (11%)	1 (2%)	1 (2%)	7 (15%)	33 (70%)	47

In summary, I had the highest rate of participation and contribution on all Web 2.0 tools bar GD. Not only did I make more posts, comments, and chat entries, I also initiated the

majority of the communication in each group, regardless of the tool used. With regards to GD, learners appeared to be the biggest contributors to their group artefact, with GD history showing little word count contribution from me. However, an analysis of the intragroup comments showed that I made a high proportion of comments to help learners refine their drafts. This means that despite the little contribution I made in terms of GD word count, I still influenced the development of learners' outputs. During the intergroup feedback session, only 7 out of 21 learners in the two studies gave their comments. The rest of the learners chose not to leave feedback to the other group(s) despite my repeated encouragement. Learners' rate of participation and contribution within their respective group varied greatly from those who hardly participated at all, to those who actively showed their participation and contribution in the project.

4.3 How do learners and the teacher interact with each other?

In order to give a comprehensive view of interaction patterns that occurred during the project, I analysed the data both deductively using Storch's (2002) concept of *equality* and *mutuality* (see Chapter 2, Section 2.5.2), and inductively. Storch's model (2002) was created based on learners' interaction when they worked on different L2 tasks. This means that my deductive analysis had a specific focus on interaction patterns *during the process of artefact creation* in each group; it was task-focused. However, learners and I did not only participate in task-focused interaction. We also had non-task related conversation. In order to provide a fuller picture of task- and non-task related interaction in my study, I also analysed the collected data inductively by identifying who interacted with whom, and how many times they did so on each Web 2.0 tool used in the study. This was done regardless of the nature of interaction (task- or non-task related). Hence the inductive analysis provided an alternative view of the interaction patterns occurring in my study as it focused on the frequency and direction of interaction. Overall, the deductive and inductive approaches complemented each other and provided an all-encompassing report on how learners and I interacted during online non-formal PBLL.

4.3.1 Interaction patterns – deductive analysis

Using Storch's matrix (2002), Abrams (2016) identified three main patterns in triadic and quadratic writing interaction on GD: low; sequentially additive; and collaborative (see Section 2.5.2). Abrams (2016) also pointed out a sub-pattern emerging from both the

sequentially additive and collaborative groups: in all triads, one participant was very passive and hardly made any contribution. This sub-pattern, however, was in my opinion not easily discernible in Abrams' three main patterns.

Edstorm (2015) also used Storch's matrix to examine triadic interaction and found four patterns: dominant/passive/off-task; dominant/dominant/dominant; collaborative/collaborative/novice; and collaborative. Edstorm's (2015) interaction patterns not only showed each member's interaction pattern more clearly compared to Abrams' (2016), but they can also be more readily adapted to describe quadratic (three learners and one teacher) and pentadic (four learners and one teacher) group interactions in my study. Hence, I applied Edstrom's method of showing the individual interaction pattern within his/her group to answer research question 1 sub question b. The six groups and I exhibited various interaction patterns as shown in Table 4.9.

Table 4.9 Interaction patterns identified using deductive analysis

Group	Members	Interaction patterns
A1	Pete/Vera/Ann/Teacher	collaborative/collaborative/collaborative/ collaborative-expert
A2	Heidi/Hector/Rita/Ivy/Teacher	collaborative/collaborative/passive/passive/ expert
B1	Macy/Roy/Bob/Naomi/Teacher	novice/expert/collaborative/passive/expert
B2	Ava/Nada/Wina/Teacher	expert/passive/collaborative/collaborative-expert
B3	Devi/Kerri/Prue/Teacher	passive/expert/collaborative/expert
B4	Amy/Zoe/Daisy/Rei/Teacher	collaborative/passive/passive/ collaborative /expert

Only one group, A1, consisted of members who all shared the same characteristics, i.e. all three were *collaborative*. They contributed to the artefact by taking part in discussion on chat tools and building on each other's ideas on GD. Although one member, Ann, had considerably more contribution on WhatsApp and GD word counts than Pete and Vera, the nature of Pete and Vera's contribution was collaborative. Despite the slightly unequal participation, Pete and Vera also contributed to the group by adding content. They also took directions from other members and edited each other's work, and thus showing high

levels of mutuality or engagement with peers' contribution. This finding corroborates Edstrom's (2015) assertion that collaborative interaction patterns are not synonymous with equal participation.

The remaining five groups showed two or more characteristics amongst their members, with all five groups having at least one *passive* member who did not make contribution nor engage with peer's contribution. For example, Naomi from Group B1 was not involved in her group's discussion on the group artefact on WhatsApp and GD chat. She did not write a single word or comment on GD either. Other learners, for example, Rita from Group A2 was also considered a passive learner despite making 3 comments on GD. This was because her comments were unproductive. For instance, when I asked her to add ideas into the Group A2's draft, she commented: *I think it has already enough for the story, cause I'm afraid that I add up something it makes the reader confused* (GD, A2, 19/8/2016).

Three learners from three different groups acted as *experts* in their team. They all took responsibility for the task and encouraged their peers to participate (see Section 5.5.1, 5.5.2, and 5.5.3). One learner, Macy, was considered a *novice* because although she showed little participation, she tried to be involved in the task by asking questions about the game her group was creating and adding (a small portion of) content to GD.

I showed two interaction patterns in the six groups that I joined: collaborative/expert, and expert. As mentioned in Section 5.4.1, I occasionally acted as a *co-collaborator.* I contributed ideas to Group A1's and B2's artefact by actually jotting down ideas on GD, not just giving prompts or guidance, which helped to shape these groups' artefact. Additionally, I gave directions, and actively encouraged participation from Group A1 and B2 members, which were characteristics of an *expert*. Thus, my interaction pattern in these two groups was labelled *collaborative-expert*. Meanwhile, the remaining 4 groups (A2, B1, B3, and B4) were able to make a start on their artefact without requiring much involvement from myself; so, I focused on facilitating the artefact creation by acting as an *expert*.

4.3.2 Interaction patterns – inductive analysis

This section shows the interaction patterns (task and non-task interaction) occurring in each of the Web 2.0 tools (bar GD document) used in my study. Data from GD document were not used in the inductive analysis as they did not show interaction between group members; GD document was only used for output creation. However, data from GD chat and GD comments, which showed interaction between group members, were included in the inductive analysis.

I ended up playing a central role in initiating, managing and participating in interactions even though at the onset of the study I planned to take a hands-off approach, aiming to only set the activities and let learners follow through. However, from early on it was evident that more teacher-led prompts were needed to trigger responses from learners, which was why I decided it was necessary for me to assume a degree of control over interactions while also trying to encourage learner autonomy. Sometimes I purposely did not prompt learners to see if they would initiate a conversation, but they never did. For example, in the extract below, I noted:

> *Week 3 Day 4*
> *Without my prompts, nothing going on.*

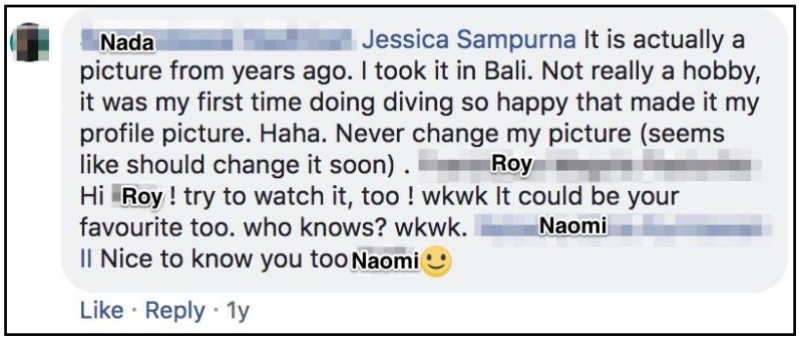
(Research diary, 18/8/2016)

Example 4.9 My observation – teacher intervention is crucial for learner participation

4.3.2.1 Facebook

I was at the centre of Facebook interactions in both studies. The majority of my posts were addressed to all learners in the Facebook group, but I also interacted with each individual learner. All learners made at least one post addressed to me, but not all of them interacted with other peers. In Study A, Hector and Rita only interacted with me. In Study B, all learners made at least one post addressed to everyone (peers and me; marked in the diagram as *All*) because when they were asked to introduce themselves, they usually started their post with *Hello everybody, my name is*…. Thus, the use of words like *everybody, guys*, etc. was the reason their post was coded as *interaction with All*. Meanwhile, learners in Study A responded to my prompt to introduce themselves without naming an addressee, and therefore was coded as *interaction with the teacher.*

Figure 4.6 below depicts interaction patterns on Facebook. Red lines show learners' posts addressed to me. Blue lines show my posts. Arrows point the direction of posts, i.e. from who to whom. Numerical values indicate the number of times an individual addressed their post to someone else. It should be noted that this figure may not match the number of individual Facebook post counts in Section 4.2 (rate of participation and contribution). This is because the analysis of posts in interaction patterns depended on the *actual content* of the message rather than the numerical count of posts. For example, the Facebook post in Example 4.10 was counted as *one* post when analysing rates of participation and contribution in Section 4.2.



(Facebook, Study B, 1/10/2016)

Example 4.10 Analysis of rates of participation and contribution – one post

However, the *content* of the post showed that Nada's post was directed to three people, and hence was coded *three* times in Facebook interactions: Nada to Teacher; Nada to Roy, and Nada to Naomi. This explained why Figure 4.6 (Study B) shows that Nada interacted with others seven times (once with Roy, once with Naomi, once with All, and four times with me), but Nada's number of Facebook posts was counted as five in Section 4.2.2.2.2.

Study A Study B

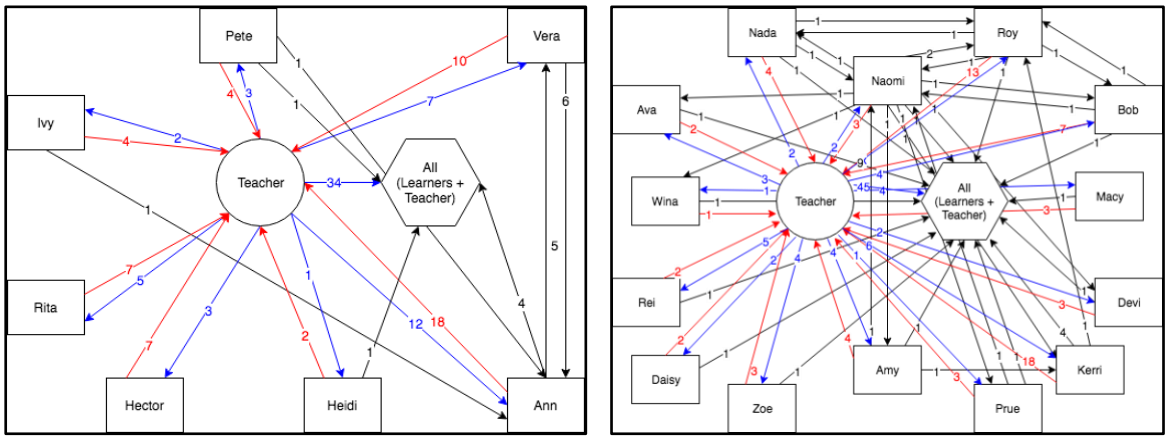


Figure 4.6 Interaction patterns on Facebook in Study A and B

In Study A, the learner with the most varied peer connections was Ann. She addressed some of her posts to Vera, and received posts from Ivy, Pete, and Vera. This was perhaps not surprising as Ann was the learner who made the highest number of Facebook posts in this Facebook group.

However, learners with the highest number of Facebook posts did not always have the most varied interactions with peers. In Study B, Kerri made the most number of Facebook posts, but the majority of them were directed to the teacher. Besides the teacher, Kerri only interacted with Roy and All. Naomi, who made fewer Facebook posts, not only addressed her posts to the teacher and All, but also nine peers, making her the learner with the most varied interaction patterns in Study B. Nevertheless, Naomi's posts were not always meaningful. Four of Naomi's posts to a specific peer were *Nice to know you, (name of peer)!*

4.3.2.2 Chat tools

Unlike the Facebook interaction patterns shown above, this section does not present interaction pattern diagrams on chat tools as there are a total of 15 diagrams (6 WhatsApp, 6 GD comment, 2 GD chat, and 1 LINE interaction patterns for the 6 groups in 2 studies). Instead, this section provides a brief summary of learners' and teacher's interaction patterns on different chat tools. For detailed individual group's interaction pattern diagrams on each chat tool, refer to Appendix G.

4.3.2.2.1 WhatsApp

Just like in Facebook, all learners chatted to me. All learners, bar Ivy and Zoe, also made chat entries addressed to everyone (marked *All* in the diagram) in their WhatsApp group. However, learner to learner interactions in WhatsApp were more multi-directional compared to Facebook. That is to say, more learners interacted with peers in their group. For example, Wina from Group B2, who only interacted with me and All on Facebook, chatted to all her team members, Ava and Nada, on WhatsApp. Perhaps a smaller-sized group encouraged, or even put more pressure on, members to interact more with each other. Still, four learners (Hector, Rita, Amy) only chatted to me and All (me and everyone else in the group), and one learner (Zoe) only chatted to me.

4.3.2.2.2 LINE

LINE was used by Group B4 only. This was in addition to using another chat tool, WhatsApp. Regardless of the chat tools, Group B4 interaction was one-directional. Each learner addressed their chat entries either to me or All, but not to any other peer(s). Meanwhile, I interacted with each learner individually and as part of a group.

4.3.2.2.3 Google Docs chat

Group A1 used GD chat for seven days and B1 for one day. In Group A1, GD chat interactions were lively and there were connections between each learner, me, and the group as a whole. Most notably, Pete and Vera, who did not connect with each other on WhatsApp, did so on GD chat. Nevertheless, in Group B1, learners showed less varied interactions compared to Facebook. This could be due to the fact that they only used it briefly as a response to the teacher's suggestion, but reverted back to WhatsApp very quickly. Despite these differences, each learner in both groups made chat entries addressed to me.

4.3.2.3 Google Docs comment

Five learners from Study A and eight learners from Study B made comments on GD. The comments were addressed to everyone in their respective groups, a specific team member, me, or other groups (in the intergroup GD). All learners, except for Heidi, Rita, Bob, Ava, and Rei, directed at least one of their comments to All in their group. For

example, during the drafting process, Prue selected *in the farm* from Group B4's text and commented: *How about – in the farm – changed into "around us"?* (GD, B4, 21/10/2016). Learners gave most of their comments to All perhaps because the comments aimed to improve their group's artefact, so they saw it as relevant to everyone in the group.

Ten learners also addressed some of their comments to me. These were usually comments made in response to other comments initiated by me. For example, I first made a comment to All in Group B4: *Are cherries available in Indonesia?,* to which Kerri replied *Mm… I think so… but maybe canned cherry… imported from other countries* (GD, B4, 9/10/2016).

As in other Web 2.0 tools, I gave my comments to both All and specific individuals. My initiating GD comments were mostly addressed to All, e.g. *Is everyone happy with reading comprehension questions? Or would you like to add more (considering Hector has developed the story further)?* (GD, A2, 24/8/2016). I also initiated comments to a specific learner. For example, after Heidi jotted down the basic plot for Group A2's story, I commented *I enjoyed reading this modification of the three little pigs, how very creative! If I'm not mistaken, you were inspired by some elements from Jack the Beanstalk?* ☺. I also replied to other comments. For example, my comment above led Heidi to reply: *Yes, I just finished read it and really like the story, hohoho. The book's name is Jack and Peas but I think the story must be same. I just wonder how can a pig climb a pea plant into the sky, wkwkwk*. I then made a final reply to Heidi: *It doesn't matter how, it's fantasy! ;)* (GD, A2, 15/8/2016), ending this particular comment thread.

To sum up, both deductive and inductive analyses of online data revealed that learners' interaction patterns varied considerably. Deductive analysis of task-focused interaction based on Storch's matrix (2002) identified the following interaction patterns: ten *collaborative*, seven *passive*, one novice, and three *expert* learners. I exhibited two interaction patterns: *collaborative-expert* in three groups and *expert* patterns in the other three groups. Inductive analysis of task- and non-task interaction revealed that I was consistently at the centre of interaction across all groups irrespective of the Web 2.0 tools used. I interacted with individual learners as well as learners as a group (All). However, learners mostly directed their communication to me, and to a lesser extent to All in their

group. A detailed analysis of pattern of interaction on Web 2.0 tools showed that some learners never directed their communication to a specific group member. For example, Appendix H shows that in Group B3's LINE chat none of the learners directed their chat entry to one specific team member. They only ever communicated with me and All.

4.4 How do learners and the teacher use Web 2.0 tools?

Learners' use of Web 2.0 tools was largely influenced by my use of Web 2.0 tools. This is because as mentioned in Section 4.2, I was the sole initiator of Facebook posts and the most frequent initiator of chat entries across all chat tools in both studies. So, when for instance, I used WhatsApp to set a task by asking learners to discuss what artefact their group would like to create, (some) learners would respond to my discussion prompts. It should be noted that the various actions I took on Web 2.0 tools were predominantly aimed at supporting learners in the project, and therefore also make up the findings to research question 1 sub-question d (how does the teacher support learners).

Although the majority posts and chat entries were initiated by me, occasionally learners also started interaction on Web 2.0 tools. This meant learners to a lesser extent also determined how and for what functions Web 2.0 tools were used.

Table 4.10 summarises how the Web 2.0 tools were used holistically in both studies. It gives an overview rather than specific details of every action performed on the Web 2.0 tools. So, for example, *the teacher set tasks* was a broad term consisting of numerous prompts, such as: discuss what artefact to create; brainstorm ideas for artefact; discuss how the artefact can benefit children who use the website, etc. Similarly, *learners respond to teacher's prompts* was also a broad term encompassing numerous artefact-related prompts, e.g. discussing what artefact to create, brainstorming aspects of artefacts, creating the artefact of their choice, and other non-artefact related prompts, such as responding to my reflection prompts or small talk prompts. Table 4.10 below shows different actions initiated by myself and the learners.

Table 4.10 Use of Web 2.0 tools by the teacher and learners

	Facebook	WhatsApp	LINE	GD chat	GD doc

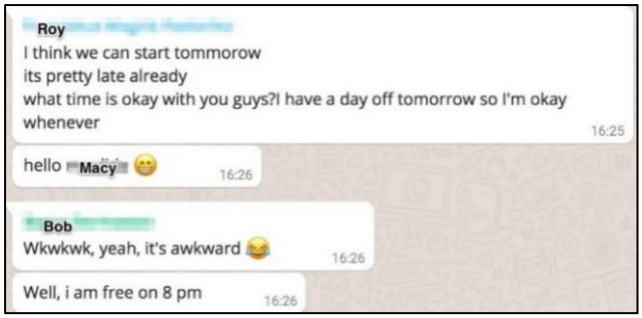
Teacher					
Give praise	✓	✓	✓	✓	✓
Make small talk	✓	✓		✓	
Show empathy	✓	✓			
Organise meet-up time		✓	✓		
Give reflection prompts	✓	✓			
Give updates	✓	✓	✓		
Set and modify tasks	✓	✓	✓	✓	
Set deadlines	✓	✓	✓		
Manage Web 2.0 tools use	✓	✓			
Encourage participation	✓	✓	✓		✓
Give content feedback		✓	✓	✓	✓
Give language feedback		✓		✓	✓
Answer learners' questions	✓	✓	✓	✓	✓
Start artefact creation process					✓
Learners					
Respond to teacher's prompts or questions	✓	✓	✓	✓	✓
Inform teacher of unavailability to join a meet-up session	✓	✓			
Ask questions to the teacher and/or peers	✓	✓	✓	✓	✓
Make small talk	✓	✓		✓	
Organise meet-up time		✓			
Attempt to catch-up with what their group was doing		✓			
Attempt to divide task amongst group members (cooperate)		✓			
Announce one’s contribution to group artefact		✓	✓		
Ask for and give peer feedback		✓	✓	✓	✓
Give praise to peers		✓		✓	✓
Give updates on group's progress		✓			
Create group artefact					✓
Discuss ideas	✓	✓	✓	✓	✓

For example, the extracts in Example 4.11 both attempted to *organise meet-up time*. The extract on the left was initiated by me, and hence considered as the teacher's use of WhatsApp. The extract on the right was initiated by learners, and thus considered as learners' use of WhatsApp.

Teacher's use of WhatsApp – organise meet-up time

(WhatsApp, A1, 25/8/2016)

Learners' use of WhatsApp – organise meet-up time



(WhatsApp, B1, 6/10/2016)

Example 4.11 How learners' and teacher's use of Web 2.0 tool was analysed

It should be noted that whilst my use of Web 2.0 tools was generally similar in all groups (for example, I organised meet-up time in each group's WhatsApp), learners' use of WhatsApp varied considerably depending on their group (for example, only learners from B1 and B3 occasionally used WhatsApp to organise meet-up time without being asked by me). That is to say, even though Table 4.9 shows that learners used WhatsApp for organising meet-up time, not all groups did so.

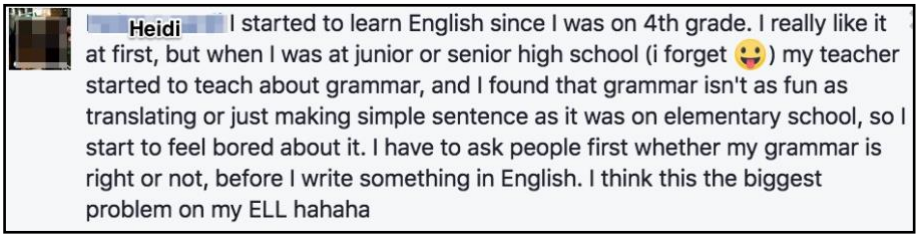
4.5 What obstacles do learners encounter?

Learners faced four challenges in undertaking various tasks in the project: language anxiety, other commitments outside the project, technological issues, and preference to work alone.

4.5.1 Language anxiety

Learners expressed various levels of anxiety when tackling tasks using the target language, with grammar being the aspect of greatest concern. Their grammar anxiety was

evident early in the project when they were asked to share their English learning background.



(Facebook, Study A, 3/8/2016)

Example 4.12 Heidi expressing her language anxiety

Another example of language anxiety in relation to grammar can be seen in the extract below. Several members of Group A1 were interacting synchronously on GD chat and developing their paragraphs simultaneously. Pete was writing the first paragraph and he was concerned about his grammar and asked his team mates to check his work. Ann acknowledged Pete's request and made some corrections.

Story

Once upon a time, earth was a beautiful place to live. Big forest can be found everywhere. Although earth has a lot of forest, there is one that is different than (not sure bout this part)the others. People called it "Solemtation". This forest located in Indonesia. Animal live in harmony and prosperity, they never lacked anything they need for year to year. The reason why people called it Solemtation because it was very warm and attract animal even people to came inside it. Inside this forest there was animal kingdom led by wise and powerful tiger.

(can u guys correct my grammar? Hahhaa i think i do a lot of mistake :P)(I got u mate! Please correct mine as well if there's some awkward phrasing. I'll try to rephrase some part to make it easier to read as well)

(GD, Study A, Group A1, 17/8/2016)

(Blue: Pete; Purple: Ann)

Example 4.13 Pete expressing language anxiety as he was working on Group A1's draft

Interestingly, Ann, an active learner who in my opinion (after observing Ann's posts and interaction with her peers) had a fairly good command of English, also revealed her lack of confidence in grammar when she was asked to give feedback to Group A2.

me
15:51
@Ann &Vera you can also discuss what you think of Group 2's story and questions here.. Maybe it will help you write comments for Group 2..

Ann
15:59
sure~
I've been wondering, they're using past perfect quite often at the first paragraph.
I..couldn't really remember when should we use past perfect. LOL
ahh it's been too long! I've been using my english for chatting, and my grammar sucks soo bad...

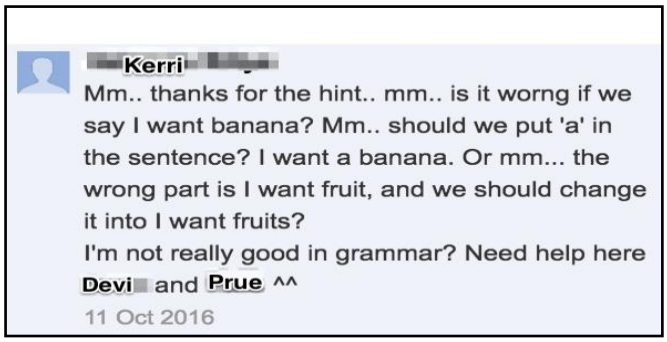
(GD chat, Group A1, 24/8/2016)

Example 4.14 Ann expressing her lack of confidence in grammar

In Study B, only one learner, i.e. Kerri, explicitly and repeatedly showed language anxiety, not only with regards to grammar, but also vocabulary and confidence in using the language.

(Facebook, Study B, 1/10/2016)

Example 4.15 Kerri expressing language anxiety



(GD, Group C1, 11/10/2016)

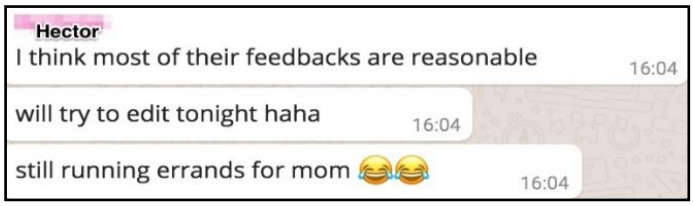
Example 4.16 Kerri expressing language anxiety yet again

4.5.2 Other commitments outside the project

Learners in both studies (regardless of their level of participation) were busy with other responsibilities/engagements in their life, e.g. preparing a university project, helping a friend with her wedding preparation, or going to a friend's birthday party, which made it

difficult or even impossible for them to allocate time to the project and they were often apologetic about their lack of participation.

However, unlike the inactive learners (e.g. Ivy, Rita, Devi quoted above) who simply apologised for their unavailability and did nothing about it, the active learners (e.g. Hector, Roy) often made an effort to catch up on their group's progress and make further contributions when they had the time. For example, Hector from Group A1 was unable to participate in the Intergroup feedback session arranged by me because he was busy running errands for his mother; but the next day he edited his group's output on GD as promised in Group A2's WhatsApp discussion.



(WhatsApp, Group A2, 25/8/2016)

Example 4.17 Hector suggesting he would work on team artefact when he had time

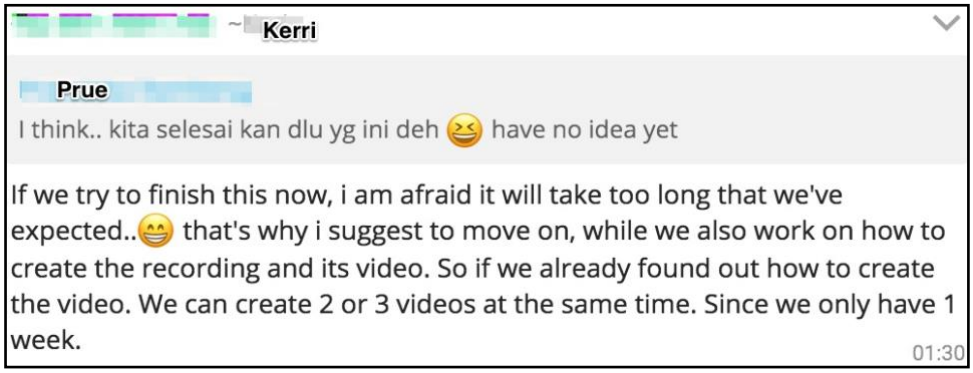
4.5.3 Technological issues

Learners' attempts to participate were also hampered by technological issues arising from the use of Web 2.0 tools. In both studies, the biggest problem was poor internet connection, which reportedly often impeded learners' participation in the project.

Other technological issues were caused by learners' unfamiliarity with GD. For example, Rita from Group B2 had trouble accessing GD, which then prevented her from incorporating comprehension questions she had already prepared into her group's draft.

Lastly, in Study B, Group B3's and my unfamiliarity with other Web 2.0 tools, coupled with poor internet connection mentioned earlier, impeded attempts to develop a more creative and ambitious artefact. After Group B3 finished the first lyrics, I asked whether the final artefact uploaded to the project website would be in the form of lyrics alone or a song (with lyrics and music). Kerri responded that she was waiting for Devi and Prue's ideas as she did not know how to create an mp3 or a good music video for children.

Since Kerri mentioned a video, I suggested *Powtoon*, a free animation software for desktop and laptop computers. Having said that, I myself had never used Powtoon, so I could not offer much help. Nevertheless, I felt this was a good opportunity to let learners take charge of their output with little teacher intervention. Kerri and Prue wanted to give Powtoon a try, but none of them succeeded. Kerri's wifi adaptor on her laptop, which she needed due to the poor internet connection, was not working properly so she could not download Powtoon. She tried using her tablet, but it did not work either. Prue tried to download Powtoon on her laptop, but she also failed. Devi suggested to create a video using *VideoScribe* and Kerri offered to ask her cousin to sing the lyrics and recorded it using *Audacity*. Unfortunately, nobody was able to use these technologies proficiently. Group B3 members had a back-and-forth discussion and decided to shelve their plans to create a song and focus on writing more lyrics instead.



(WhatsApp, Group B3, 15/10/2016)

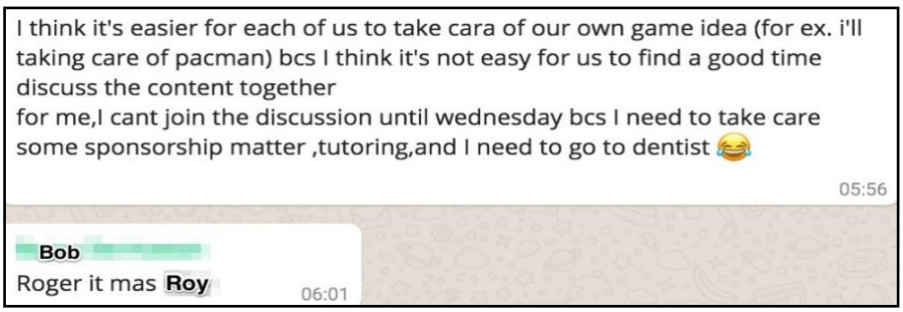
Example 4.18 Group B3 decided to abandon the idea of creating a video

In the end, Group B3 created lyrics for two songs and did not pursue the video anymore.

4.5.4 Preference to work alone

Online data from Study A gave no indication of learners' feelings about collaborating with others. In Study B, however, three learners either explicitly or implicitly indicated their preference to work alone. Interestingly, these three learners (Roy, Kerri, Bob) were some of the most active participants and two of them (Roy and Kerri) could be considered as the implicit leaders of their respective groups.

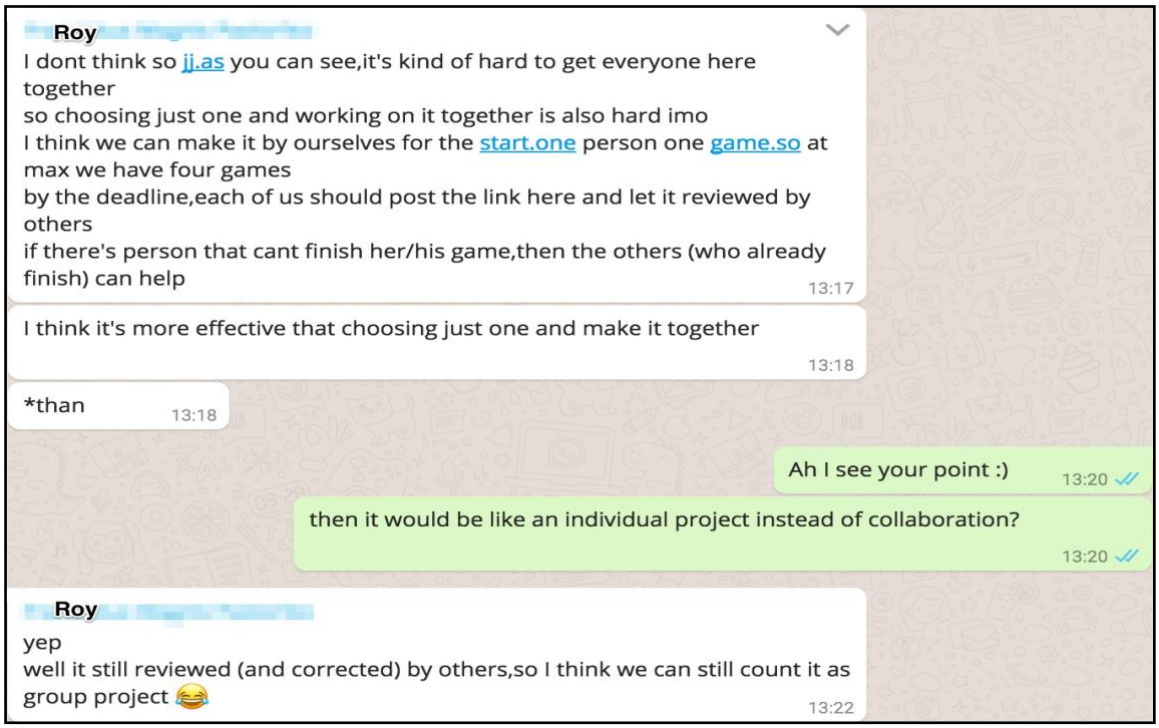
For example, on the second day of the group discussion, Roy suggested that each team member work on their own game, and this was welcomed by Bob.



(WhatsApp, Group B1, 10/10/2016)

Example 4.19 Roy suggesting that each team member work on their own content

When I proposed that Group B1 choose one game out of the numerous suggestions made during the previous discussion, Roy explained why he felt individual work would be more efficient and reasoned that eventually the individual game would be peer reviewed, rendering it a collaborative endeavour.



(WhatsApp, Group B1, 11/10/2016)

Example 4.20 Roy justifying his idea to cooperate rather than collaborate

I then explained that I was interested in the collaborative process, at which point Bob started joining the conversation and stated his agreement with Roy's views and his

preference to work independently. It took some more explanation and persuasion from my side, but in the end Bob and Roy agreed to work together instead of dividing the tasks.

Meanwhile in Group B3, after agreeing on what artefact to create, Kerri indicated she would take on the work herself and shared the final product with her team. Just like in Group B1 above, I explained my interest in learners' collaborative processes. Kerri agreed to work as a team although she would have preferred to work alone.

Of course, learners might still benefit from creating their artefact individually. However, if all learners choose to work alone, they miss out on interacting with others, which is regarded as beneficial for L2 development (Ellis, 2012a). Moreover, learners working individually also hamper the creation of community in which they can support each other.

4.6 How does the teacher support learners?

I supported learners by acting largely as a facilitator and occasionally an expert, as explained next.

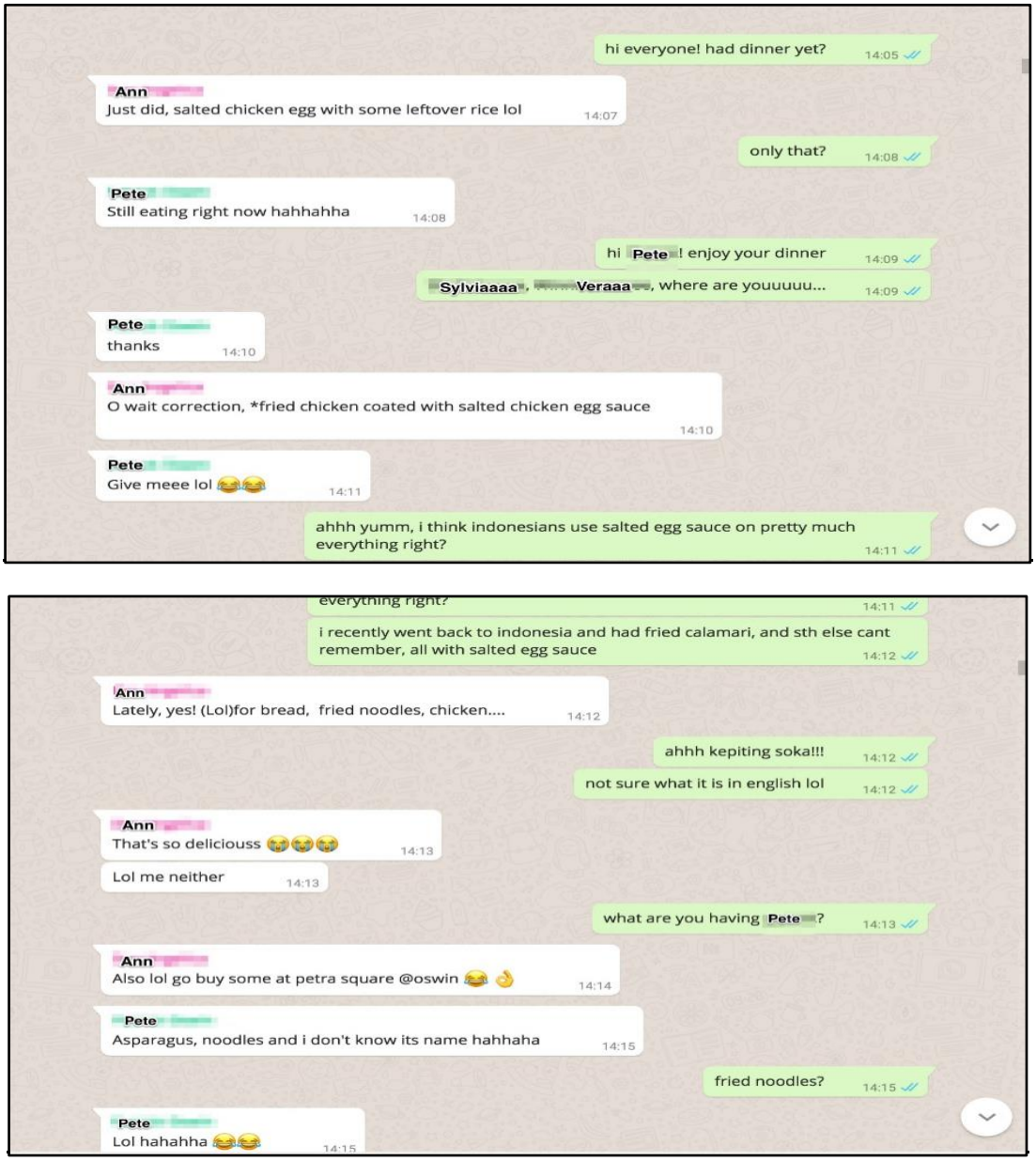
4.6.1 Teacher acting as a facilitator

For the most part, I positioned myself as a facilitator, that is, I gave support and guidance, both interpersonally and academically, to help learners accomplish the project.

4.6.1.1 Interpersonal support

I believed that good rapport was important to create an environment that was conducive to learning. Since the majority of learners in this study were neither acquainted with each other nor me, I made a conscious effort to build rapport with and between learners; for example, by using an ice breaker to help learners get to know each other. To build interpersonal relationships, I also regularly made small talk, gave praise, and showed empathy. Furthermore, to create a personal and approachable atmosphere for learners, I frequently used informal language and emoticons.

Firstly, in Study A, I often tried to engage learners in light-hearted conversation before engaging in more academic tasks. For example, in the extract below I started the discussion on the day by asking learners if they had had dinner. This led to a lengthy casual conversation, which I viewed as successful small talk.



(WhatsApp, Group A1, 10/8/2016)

Example 4.21 Successful small talk

However, my attempts to make small talk were not always successful. I asked Group A2 the exact same question at the same time on the same day, but nobody replied. I asked another question the next day and again there was no response. It was not until two days later that someone did talk to me.

(WhatsApp, Group A2, 10-12/8/2016)

Example 4.22 Unsuccessful attempts at small talk

In Study A, only four instances of teacher-initiated small talk resulted in reasonably long conversations (three in Group A1, one in Group A2) before the group switched to task-related discussions.

I made comparatively less small talk in Study B. This was because I deemed most of the participants in Study B to be more passive than Study A, not only in terms of lower frequency of online presence/attendance, but also lower responsiveness to my prompts. For instance, I noted the difficulty in engaging Group B4 in a conversation in my research diary.

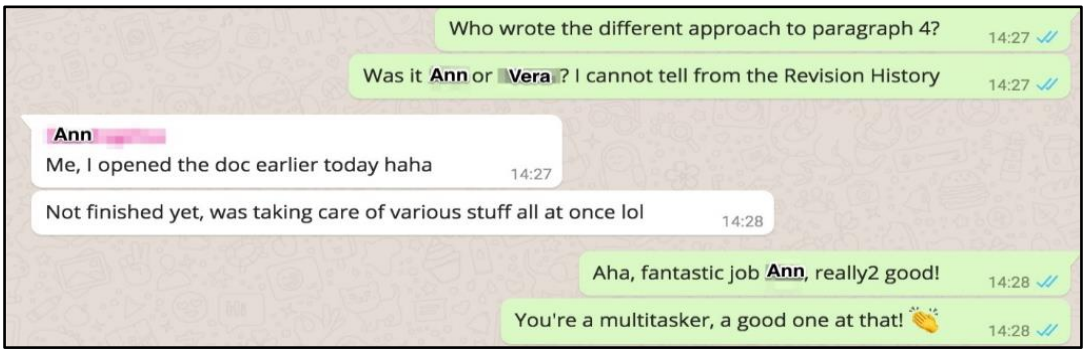
> Group B4 was silent. I said Hi to try to prompt convo, but so far no taker just yet. We'll see. I get the feeling that I may end up with just 3 groups!

(Research diary, Study B, 7/10/2017)

Example 4.23 My observation – difficulty in engaging learners in Group B4

Because of this, on the rare occasions that learners showed up for a discussion, I felt I had to make the most of it by focusing on tasks instead of small talk. There was hardly any evidence of successful small talk in Study B's online data, except in Group B3.

Secondly, in both studies I often praised learners for their contribution and/or commitment to the project. In Example 4.24 I commended Ann for having written a paragraph despite her having to juggle many things at once.



(WhatsApp, Group A1, 21/8/2016)

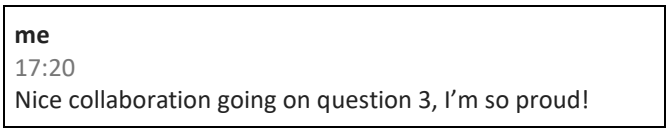
Example 4.24 Giving a learner praise – 1

Similarly, I complimented Amy on her story.

(LINE, Group B4, 15/10/2016)

Example 4.25 Giving a learner praise – 2

Another aspect I praised was collaboration. For example, after lengthy collaborative work between Pete and Vera, I congratulated them.

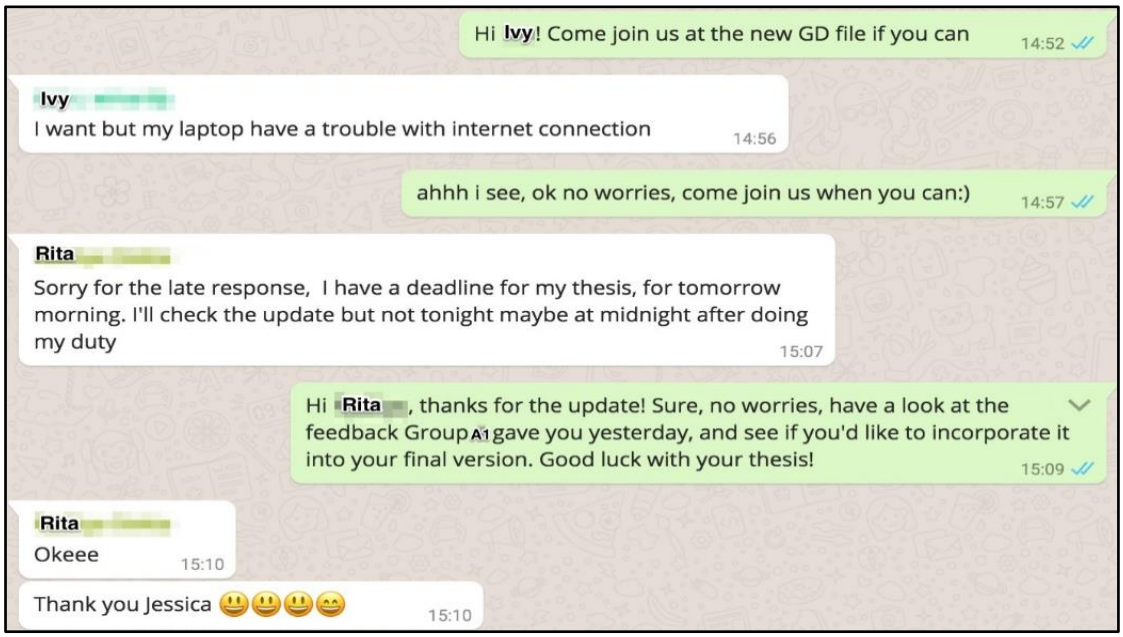


(GD chat, Group A1, 22/8/2016)

Example 4.26 Giving a learner praise – 3

Teacher praise for collaboration, however, only occurred twice in Study A (shown above) and did not occur at all in Study B.

Thirdly, to cultivate a good relationship with learners, I demonstrated empathy when learners expressed difficulties in participating so that they did not feel burdened by the project.



(WhatsApp, Group A2, 25/8/2016)

Example 4.27 Showing empathy

Lastly, as can be seen in the extracts above, informal language and emoticons featured frequently in my communication. This was reciprocated by the learners, and their interactions with each other and me were peppered with both features, not only when they were having small talk, but also in task-focused interaction. In Example 4.28, Pete and Vera were deciding what to do next and they decided to write multiple choice questions.

me
16:34
Yay, agreement! Sure go ahead then... Maybe multiple choice questions?

4-5 questions? feel free to discuss the questions and possible answers between the two of you I'm here if you need help

Pete
16:35
okay hhahah

Vera
16:38

okay

Pete
16:39
should we give the right answer too?

Vera
16:39
5 options not too much? hahaha

Pete
16:40

oh hahhaha we go with 4 then
is it okay?

(GD chat, Group A1, 22/8/2016)

Example 4.28 Relaxed interaction

I conveyed my enthusiasm by using a colloquial word 'yay' and an exclamation mark, writing as I was speaking. Even though the emoticons in this conversation were not captured (because when the conversations were copied and pasted from GD chat into Microsoft Word so that the dialogues could be saved, the emoticons disappeared) Pete and Vera's use of repeated laughs 'hahaha' also indicated they were having a relaxed interaction.

Similarly, in Example 4.29 Rei had just copied and pasted the story Amy shared on LINE to GD, and I set the next task for Group B4. Amy's use of 'OKAY!' sticker and Rei's smiley face emoticon created the feel of a friendly conversation.

(LINE, Group B4, 14/10/2016)

Example 4.29 LINE sticker and emoticon creating a friendly atmosphere

4.6.1.2 Academic support

As the PBL facilitator, I provided academic support by organising and modifying tasks, as well as encouraging collaboration.

4.6.1.2.1 Organising and modifying tasks

Firstly, taking into account the research setting and participants, I felt it was necessary to break tasks down into smaller, more manageable pieces. For example, one of the key features of PBL is student-driven learning, letting learners choose the direction of projects by themselves. Another feature is collaboration, which means working in groups. The combination of the two features was achieved through the following stages:

- learners needed input, so I asked them to do preliminary research by browsing other English learning websites for children, and to discuss their research findings so that they were aware of their peers' interests and thoughts, which could potentially help them decide who they wanted to work with;
- I asked learners to put themselves into groups;
- once the groups were formed, I asked learners to discuss and decide what artefact to create.

The way I organised tasks was similar in Study A and B. In Study B, however, I often set deadlines; this was because in the interview, Rita from Study A suggested a timetable of tasks and deadlines would help learners adjust their schedules and make time for the project.

Furthermore, I often made suggestions about how to tackle the tasks. For example, observing learners' concern over language accuracy early on in the project, I explained why it was a good idea to focus on content first, and assured them that they would have an opportunity to work on language later on. In Study B, Group B2 was struggling with their output. They decided to create a story with a moral for children, but all team members seemed too busy to make a start. After much deliberation, I decided to help create a basic plot (based upon a moral that had been discussed on WhatsApp), with the hope that this could serve as a starting point and encouraged more collaboration amongst Group B2 members.

BASIC MESSAGE: EAT HEALTHILY! :) Plot: ()--> paragraph -Introduce the character -A good kid, bla bla, but loves junk food and sugary food, does not appreciate mother's cooking…give examples… -On his friend's birthday, enjoyed cakes, ice cream, etc, came home, didn't brush his teeth and went straight to bed… -Woke up in the middle of the night with severe toothache.. -(you guys continue), maybe add 2-3 more paragraphs? -Doctor's advice… -Kid learned a valuable lesson: eat healthily, brush teeth at least twice a day bla bla..	I created a basic plot on GD (yes, almost all of the plot, but left some gaps to be filled in by participants, to encourage them to add ideas, so not everything is mine). I didn't want to do this, but I feel that the group is not going to progress if I didn't at least try to help them with the plot, and I'm hoping that they will be able to at least help expand/build the story with the basic bullet points I provided. I announced the plot is ready on WhatsApp and encouraged the team to work on the plot.

(GD, Group B2, 17/10/2016) *(Research diary, Study B, 17/10/2016)*

(Green: me)

Example 4.30 I kick-started the writing process in Group B2

A few hours later, Ava turned the bullet points into an unfinished paragraph. Wina subsequently finished the story and added comprehension questions.

Another task-related action that I carried out in Study B, which did not occur in Study A, was task modification during intergroup feedback sessions. Initially I intended for learners to read all three drafts from the other groups and give feedback. However, after two days passed without one single comment being made, I suspected the task might have been considered arduous by learners. Thus, I simplified it by asking learners to give feedback to one specific group only (Group B1 to Group B2 and vice versa, Group B3 to Group B4 and

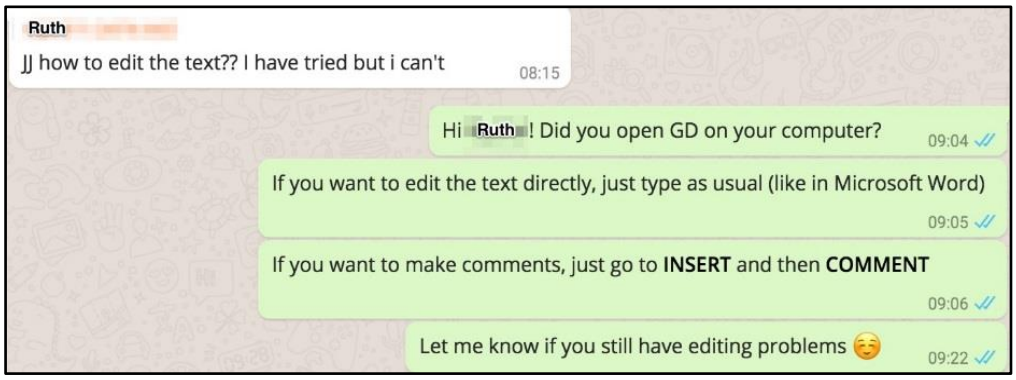
vice versa), stating that they could choose to give positive feedback (e.g. praise) and allowing learners to use Indonesian with the hope that this would encourage them to perform the task. The next day, three learners gave feedback to all groups, instead of just one group as stated in the task modification.

These three were the only learners who ended up giving intergroup feedback. Therefore, it was not clear whether they tackled the task because of the task modification (as they all gave feedback to all groups), or whether they would have done the task anyway even if the task had not been modified.

4.6.1.2.2 Encouraging collaboration

I encouraged collaboration by managing Web 2.0 tools and encouraging participation. To facilitate online collaboration, the collaboration tools used need to have the right functionality and participants need to be able to access the tools easily. As mentioned in Section 3.8.1, I introduced new tools based on learners' needs and preferences. This addition of tools required my organisation and management.

I created WhatsApp groups, GD docs for each group, GD docs for intergroup feedback (a compilation of the drafts produced by all groups in a particular study) and a LINE group. Furthermore, I ensured that all learners had access to the tools. After creating the groups and inviting learners to use the new tools, I found that some learners did not show up. Hence, I had to contact these learners to check whether their absence was due to technological issues, and if so, I had to deal with them. I discovered that some learners used different email addresses, did not check their email and thus missed the invitation, and that in Study B some learners did not know how to use GD (in Study A I was not aware of this problem until the interview). For example, in Example 4.31 I gave a learner instructions on how to edit texts on GD.



(WhatsApp, Group B2, 20/10/2016)

Example 4.31 Giving instructions on how to edit texts on GD

Both synchronous and asynchronous interactions in online language learning have their advantages as well as shortcomings (Perveen, 2016). In Study A, I found that synchronous chats in particular were effective means of collaboration. I observed how for the first time, Group A1 had a fruitful interaction on GD chat and worked together productively after I arranged a synchronous chat session.

Group A1 finally made a good progress on GD. I organised a time for a group chat on WhatsApp for 8pm, followed by Ann initiating a group chat on GD.	I slowly discovered that it's perhaps a good idea to arrange a 'meet-up time' usually between 8.30-9 pm to encourage more LIVE interactions between participants. The use of GD chat is very useful as they can interact whilst working on GD at the same time…

(Research diary, Study A, 17/8/2016) *(Research diary, Study A, 22/8/2016)*

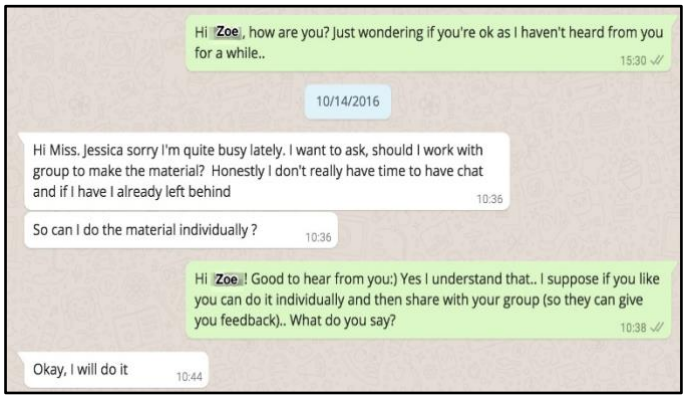
Example 4.32 Noting the value of synchronous interaction

Realising how synchronous interactions positively affected Group A1's collaboration, I regularly organised a meeting time for Group A2 and also all the other groups in Study B. Despite my best efforts, only two other groups (Group B1 and Group B3) responded to my call for synchronous chats and met up at a specific time to work together. The remaining groups either ignored this call (as can be seen in Example 4.33), or never managed to work synchronously.

(WhatsApp, Group B2, 10/10/2016)

Example 4.33 Learners ignoring my calls for synchronous chats

It should be mentioned that although I regularly pushed for collaboration, in Study B I eventually let learners in Group B2 and B4 work individually as I found it very difficult to get learners in these groups to work together.



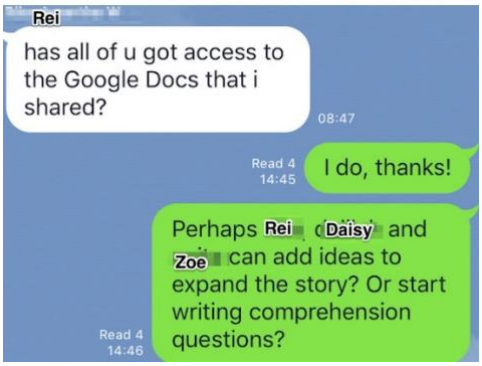
(WhatsApp, Study B, private chat with Zoe from Group B4, 11-14/10/2016)

Zoe said she'll do it individually as she doesn't have time to chat/collaborate. I said OK and asked her to get her team's comments and feedback. For me, at this point, it's better than nothing.

(Research diary, Study B, 14/10/2016)

Example 4.34 Letting Zoe work individually

Another prerequisite for collaboration is participation. I often called individual learners and invited them to join in ongoing conversations or participate in the project in some way, usually by suggesting what they could do to make a contribution to their team's output.



(LINE, Group B4, 15/10/2016)

Example 4.35 Making suggestions in group chat to encourage learner contribution

Besides calling learners on group chats (which meant that everyone in the group could see the message) as shown in Example 4.35, to encourage participation, I also contacted learners privately. In Study A, this only happened once. I began with inquiring about Ivy's wellbeing and when Ivy confirmed she was fine, I encouraged her to add ideas to her group's story.

(WhatsApp, Study A, private conversation with Ivy from Group A2, 19/8/2016)

Example 4.36 Making suggestions in private chat to encourage learner contribution

In Study B, I contacted individual learners privately much more frequently because many Study B learners 'disappeared' (not showing their presence) for days or even weeks. I usually started by checking if learners were well as they had been 'absent' from the project and then encourage contribution. Sometimes this particular strategy (contacting

learners in private) worked and learners made a contribution, and sometimes it did not work even after learners suggested they would try to contribute. In Ivy's case above, she never did contribute to the team's story. However, I continued to encourage her to participate on other occasions.

4.6.2 Teacher acting as an expert

Despite consciously moving away from the traditional teacher role as an imparter of knowledge, I occasionally adopted a more 'expert' stance to help learners accomplish the task to the best of their ability.

4.6.2.1 Advice to first focus on content over language

As mentioned in Section 4.5.1 (Example 4.13), in Study A, some learners very early on expressed their concerns for language accuracy as they were collaborating on their artefact. In these instances, I intervened because I felt that learners' concerns about grammar at an early drafting stage might interfere with content development.

Learners' overt attention to linguistic accuracy could be also observed in Study B as they requested help from their peers to check their grammar. I responded with the same advice, i.e. by explaining the reasons why it is advisable to focus on content development first, and reassuring them that later on they would be given a chance to check the accuracy of their artefact.

Another example, which illustrates my role as an expert, was when I gave content and language feedback on learners' output and offered explanations when learners were stuck; this is elaborated on next.

4.6.2.2 Feedback on content

During the drafting process, I focused primarily on giving feedback on content. For example, in Example 4.37, Vera had just finished her question and Pete indicated he had read and liked one of the choices by commenting 'love it hahahha'.

3. What is the name of the different forest that located in Indonesia? (answer: C)

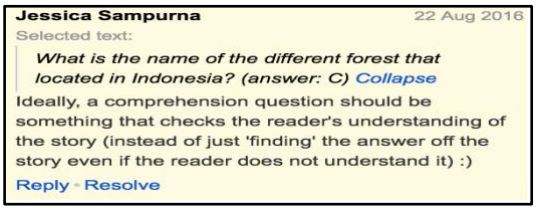
a. Rainforest
b. Solemnation
c. Solemtation
d. Blackforest (love it hahahha) (hahahha, indeed)

(GD, Group A1, 22/8/2018)

(Red: Vera; blue: Pete)

Example 4.37 Group A1 – original question

I knew this question could be improved, but felt that it was unlikely the learners would have been able to spot the (unobvious) problem. Thus, I commented:



(GD, Group A1, 22/8/2018)

Example 4.38 Feedback on content – 1

This comment prompted Vera to think of a different question to replace her original one, but she was finding this difficult. Pete saw this and offered to help. They communicated and ended up co-creating question 3, which in my opinion was an improvement compared to Vera's original question.

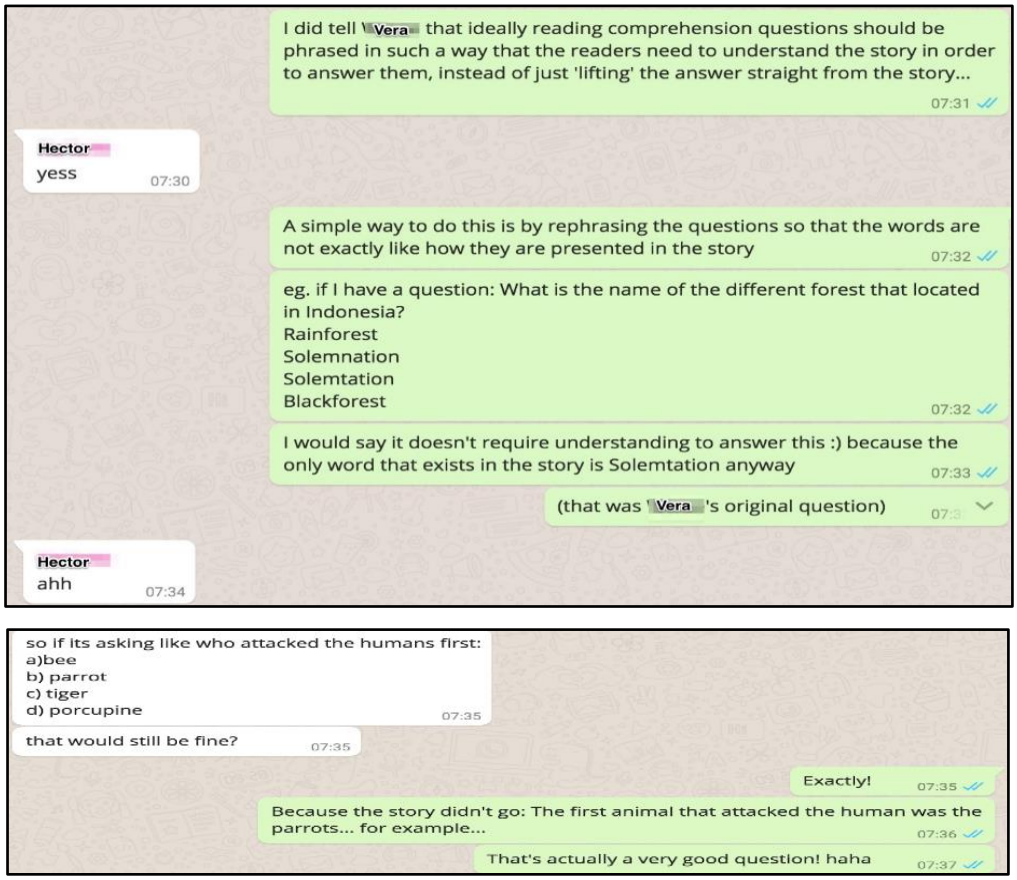
3. How the animals defend their home? (may i help u?) (pleaseee, it's quite difficult) (the right answer is attacking people?) (yes) (answer : A)
a. They work together to attack people
b. They built shelter to take cover
c. They call back up and declare war to people. (very nice!! Thank you) (hahaha yup :D)
d. They burned people's houses down (I have no idea hahaha) (How about: 'they burned people's houses down'?) (sure)

(GD, Group A1, 22/8/2017)

(Purple-Vera; blue-Pete; orange-me)

Example 4.39 Group A1 – revised question

Another example of where I took the 'expert' role was when Hector from Group A2 did not understand the feedback on his multiple-choice questions given by Vera from Group A1. I clarified Vera's comments so Hector could then make an informed decision on whether and if so, how he would improve Group A2's questions.

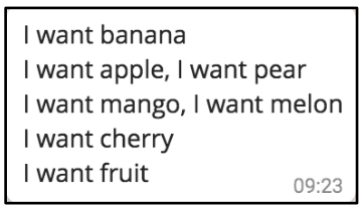


(WhatsApp, Group A2, 26/8/2016)

Example 4.40 Giving an explanation

After my clarification Hector seemed to have understood Vera's comment on the issue with some of his group's multiple choice questions. However, he decided not to amend the questions. I made no further comment as I felt Hector had understood what the issue was and if he preferred not to do anything about it, I respected his decision.

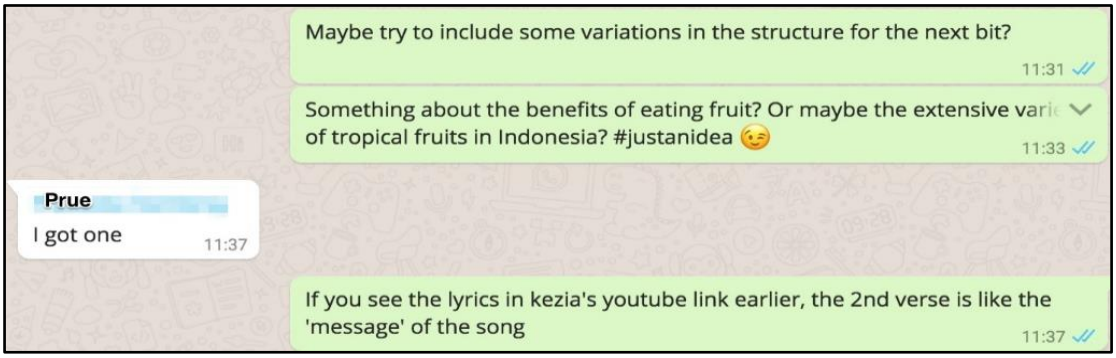
Similarly, in Study B, I also provided feedback on content and further explanation when learners did not understand my feedback. The extracts below showed how my comments helped Group B3 to improve their lyrics. Initially, Group B3's lyrics for their first song was very simple. The first verse was created by Kerri:



(WhatsApp, Group B3, 9/10/2016)

Example 4.41 Group B3 – original lyrics

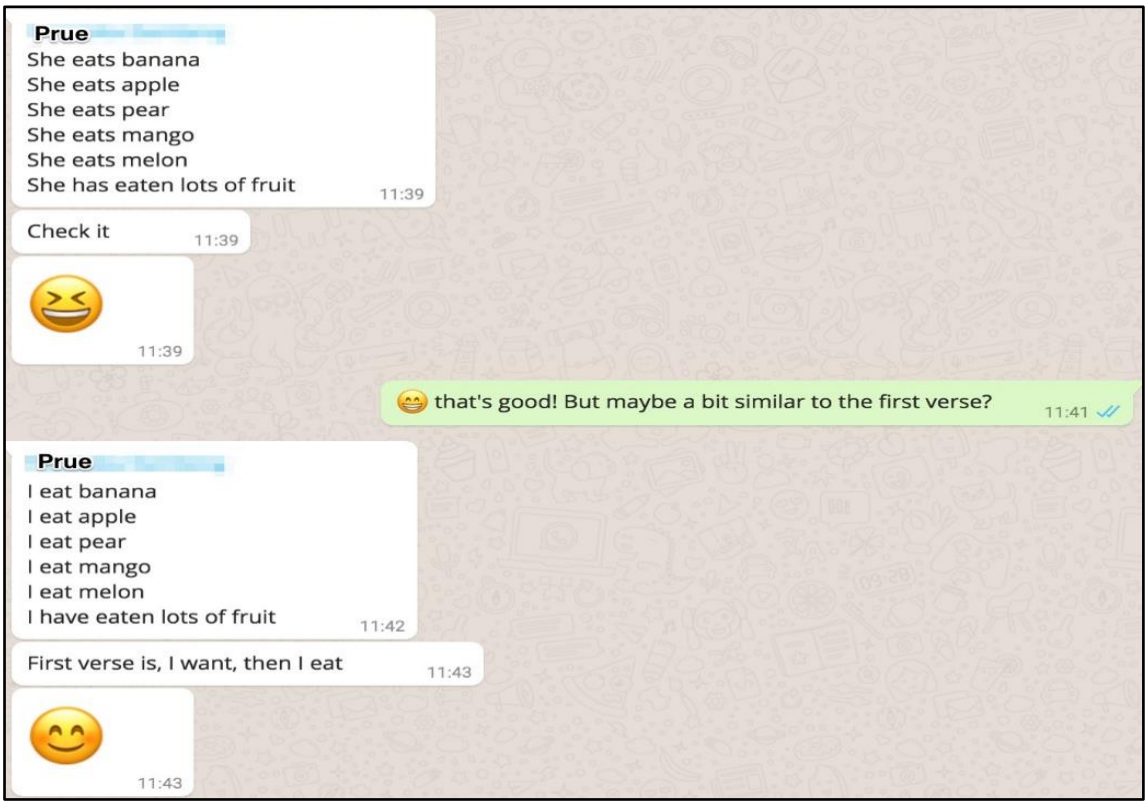
I made three suggestions to improve their lyrics:



(WhatsApp, Group B3, 9/10/2016)

Example 4.42 Feedback on content – 2

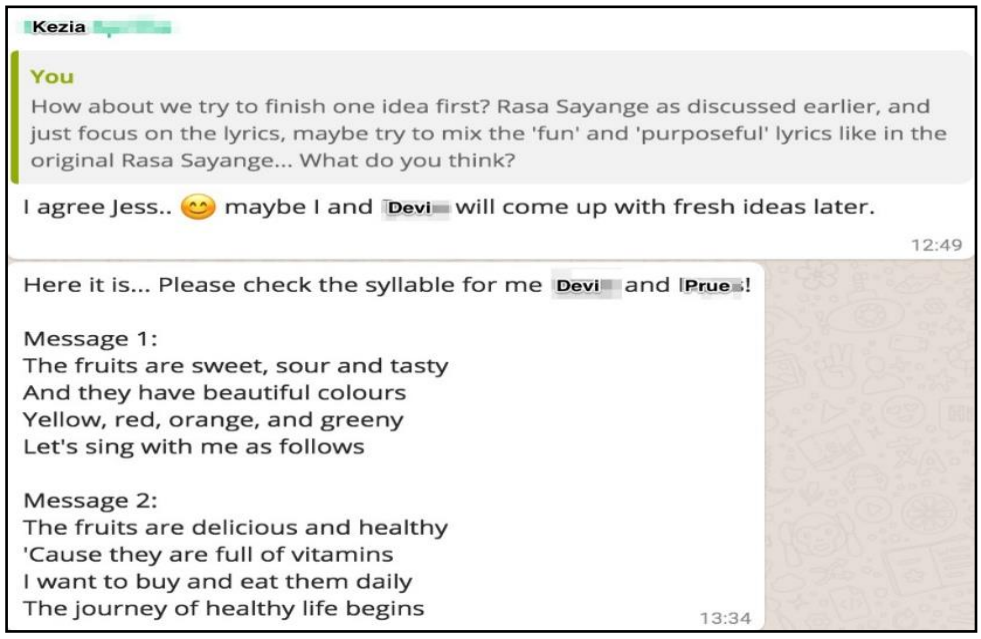
However, learners in Group B3 did not seem to understand my suggestions as Prue then proposed a second verse which was very similar to the first verse. When I asked about this, Prue's reply indicated that for her, substituting 'she' for 'I' was enough to differentiate the two verses.



(WhatsApp, Group B3, 9/10/2016)

Example 4.43 Prue not understanding my feedback

To help learners make sense of my comment, I gave a further explanation by showing the original Indonesian lyrics. This meant that that learners could see how in the Indonesian song, the line of each verse conveyed some sort of message that the writer wished to express: *Masih kecil rajin belajar, sudar besar senanglah diri* (verse 1) (*if you study hard when you are young, you will reap the benefits when you grow up)* and *Kalau ada umurku panjang, boleh kita berjumpa lagi* (verse 2) *(if I live to an old age, may we see each other again).* This time the learners understood my suggestion and they liked this idea. After further discussion, Kerri incorporated my feedback into the revised lyrics. In my opinion, the revised lyrics were more sophisticated compared to the learners' original version.



(WhatsApp, Group B3, 9/10/2016)

Example 4.44 Group B3 – revised lyrics

4.6.2.3 Feedback on language

I also offered feedback on language by providing various types of form-focused instruction (FFI), such as explicit and implicit instruction, as well as corrective feedback (Nassaji, 2016). Since FFI is one of the four possible language learning opportunities identified in this study, it will be discussed in Chapter Five, along with peer review, social interaction, as well as collaborative dialogue and language-related episodes.

4.7 Summary

This chapter has examined data from all the Web 2.0 tools, and the research diary, used in the study. It has described what happened when PBLL was implemented online in a non-formal education context. Table 4.11 below provides a summary of findings for the sub-questions in research question 1.

Table 4.11 Summary of what happens when project-based language learning is implemented online in a non-formal education context

a.	To what extent do learners and the teacher participate and contribute?	I had the highest rate of participation and contribution on all Web 2.0 tools bar GD. Not only did I make more posts, comments, and chat entries, I also initiated the majority of the communication in each group, regardless of the tool used. With regards to GD, learners appeared to be the biggest contributor to their group artefact, with GD history showing little word count contribution from me. However, an analysis of the

	intragroup comments showed that I made a high proportion of comments to help learners refine their draft. This means that despite the little contribution I made in terms of GD word count, I still influenced the development of learners' output. During the intergroup feedback session, only 7 out of 21 learners in the two studies gave their comments. The rest of the learners chose not to leave feedback to the other group(s) despite my repeated encouragement. Learners' rate of participation and contribution within their respective group varied greatly from those who hardly participated at all, to those who actively showed their participation and contribution in the project.
b. How do learners and the teacher interact with each other?	Patterns of interaction varied across groups. Deductive analysis based on Storch's matrix (2002) revealed that during the artefact creation process, learners exhibited differing patterns, namely collaborative, passive, novice, or expert. In each group, there was at least one member who was collaborative. Also, in the majority of groups (except for Group A1), there was at least one member who was passive. As the teacher in the two PBLL studies, I showed two interaction characteristics, i.e. collaborative/expert and expert. Meanwhile, inductive analysis of both task and non-task conversation showed that I was at the centre of interaction across all groups in both studies. I interacted with learners both on an individual level and as a group (All). On the other hand, learners mostly addressed their post, chat entries, or comments to me, followed by to All in their group. However, some of them did not interact with their peers on an individual level.
c. How do learners and the teacher use Web 2.0 tools?	Learners' use of Web 2.0 tools largely followed how I used the technologies. For example, when I started a small talk on WhatsApp, they would follow my cues and interact on WhatsApp. When I asked learners to produce their artefact on GD, they did so on GD.
d. What obstacles do learners encounter?	Obstacles in the way of learners' attempts to accomplish the project included concerns about using the target language, other commitments which limited the time available for participation, problems with internet connectivity and Web 2.0 tools, and a preference to work individually rather than collaboratively.
e. How does the teacher support learners?	I supported learners by facilitating the completion of the project and sharing my expertise. In my role as a facilitator, I offered interpersonal and academic support. And in my role as an expert, I provided feedback on learners' outputs, focusing on both their content and language.

Chapter Five will next describe findings related to language learning opportunities occurring in the project.

Chapter 5 Language learning opportunities afforded by online non-formal project-based language learning

5.1 Introduction

Chapter Five is the second of three findings chapters. This chapter presents findings related to the second research question: What language learning opportunities does online non-formal project-based language learning afford learners? Language learning opportunities were based primarily on the analysis of online data, supported by the research diary. Online data were analysed deductively through the interactionist and sociocultural perspectives of L2 learning. Both theories consider form-focused instruction (FFI) (Nassaji, 2016) and peer review (Hyland & Hyland, 2006) to have positive effects on L2 learning. In addition, sociocultural theorists view interaction in the target language (Kurata, 2010) as well as collaborative dialogue and language-related episodes (LREs) (Swain, 2000; Swain & Lapkin, 1998) to be facilitative of L2 learning. Hence, the four micro-language events presented in this chapter are considered as possible language learning opportunities.

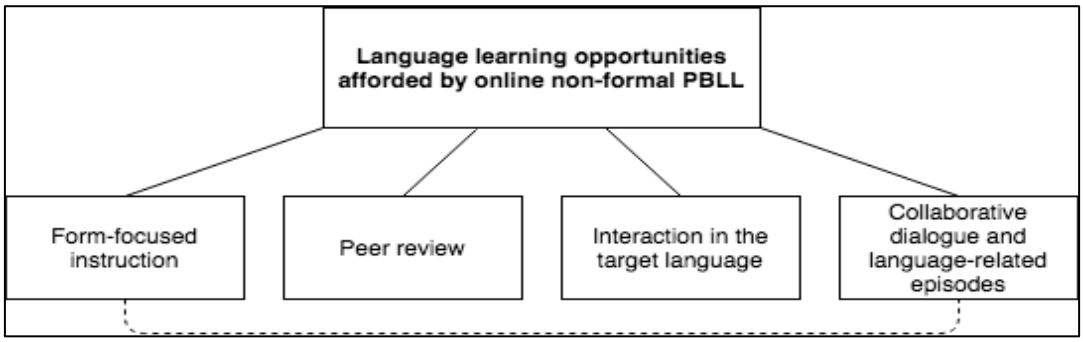


Figure 5.1 Language learning opportunities afforded by online non-formal PBLL

It should be noted that sometimes it was difficult to separate the four categories. As illustrated in Figure 5.1, a collaborative dialogue could overlap with FFI; in this case, they are presented together so the consequences of such a combination could be made clear. As will be seen, some extracts used to support findings in this chapter have been previously used in Chapter Four to demonstrate other categories. However, different extracts will be used where possible to provide variety.

5.2 Teacher's form-focused instruction (FFI)

As mentioned in Section 4.6.2, I occasionally adopted the role of an expert by providing FFI that directed learners' attention to form. *Form* encompasses grammar, vocabulary, pragmatics, and pronunciation (Nassaji, 2016), but the latter was not applicable in this study as there was no speaking component.

In Study A, in order to encourage learners to firstly focus on their content development and then to solve language issues amongst themselves, I withheld FFI until after the Intergroup feedback session (at which point there had been many opportunities for learners to give and receive language feedback from peers either from the same or different groups). For example, on the penultimate day of the project, I asked learners in Group A1 to:

- check their use of tenses, which had also been suggested by Hector in the Intergroup feedback session;
- check their use of noun forms, which thus far had not been paid attention to.

I also provided a brief explanation of singular and plural nouns.

me
16:00

…
My tips for paragraph 1: consistent tense and check the logical order of the story

3...2...1.. Go!
err.... maybe it's difficult if you guys focus only on 1 paragraph.. you're busy waiting for your turn to edit..
ok, i'll just let you edit whichever part of the text you like.. and then you can re-check each other's correction?
…

me
16:14
Tip #3: check the use of plural vs singular nouns

Vera
16:15
hahaha. yes. is it human or humans for line 5?
humans?

---

me
16:15
For things that you can count, e.g. animal, if you're talking about animals in general, use the plural form (e.g animal (1) vs animals (>1)

Pete
16:16
i think its humans hahha
because you can count it? hmm

Vera
16:18
yeah hahaha

(GD chat, Group A1, 29/8/2016)

Example 5.1 FFI withheld until after the Intergroup feedback session

Group A1 collaboratively edited their work, taking into account my instructions (and peer feedback received from Group A2) as can be seen in Example 5.2. *Human* was changed to *humans* and some verb tenses were changed to past tense.

A swarm of bees ~~are~~ was already on their way to ~~sting~~ sting the human!
'Someone dropped our beehives! It must be you guys!' said the queen bee.
Little did they know, the culprit who dropped the beehives is none other than the bear. The bear watched the humans r~~u~~an in fear behind the bushes, while ~~enjoying~~ enjoyed his honey.
'Quick, let's go to the river! Bees can't swim!' yelled one of the ~~carpenter.~~ human.

(GD, Group A1, 29/8/2016)

(Orange: Pete; pink-Ann; blue-Vera)

Example 5.2 Learners' revision after receiving FFI

I felt that Group A1 had edited their output to the best of their ability. Since there were still numerous errors in the revised output, I decided to provide final (explicit) corrective feedback on the penultimate day of the project. This included language correction and content rearrangement to make the story more coherent and cohesive. Learners' texts were left intact and I wrote my corrections underneath each of the learners' paragraphs. I intentionally crossed out words and highlighted others in yellow so that learners could easily see changes I made. I also left comments to explain some of my corrections.

A swarm of bees ~~was~~ were already on their way to sting the humans that had escaped the porcupines! 'Someone ~~dropped~~ knocked down our beehives! It had to be you guys!' ~~said~~ the queen bee shouted angrily. Little did they know, the culprits responsible for knocking down ~~who dropped~~ the beehives ~~was~~ were none other than the bears. The bears watched the humans ran in fear ~~behind~~ into the bushes, while ~~enjoyed~~ enjoying his honey. 'Quick, let's go to the river! Bees can't swim!' yelled one of the humans.	**Jessica Sampurna** 29 Aug 2016 Selected text: *dropped* 'dropped' implies that the beehive was being held by someone who let it go Selected text: *said* 'said' is fine here, but it's nice to use different words to make your text more interesting to read

(GD, Study A, Intergroup feedback, 29/8/2016)

Example 5.3 Teacher's FFI (corrective feedback) given on the final day of the project

After that, I gave learners an opportunity to ask questions about the corrections. Only Pete took up the opportunity and asked about the use of gerund. I gave a short explanation and he seemed to be satisfied with it.

Pete
16:45
like this one 'the wise tiger pondered before nodding his head'

why this -ing thing (dosen't know what kind of tense is it hahhahha) come after past tense

---

me
16:48
ah, that's because it's the same as saying: 'the tiger pondered before he nodded his head'
your original I think was 'the tiger pondered before nodded his head'
so either: 1/ you put the subject 'he' before nodded; or 2/ change 'nodded' to 'nodding' if there's no subject

---

Pete
16:49
ah i remember wrote that before the we edit it again hahhaha
i see, so thats how it works

(GD chat, Group A1, 30/8/2016)

Example 5.4 Follow up from teacher's corrective feedback

Interestingly, at a later date during the interview, Rita from Group A2, who had hardly participated in the project, also asked a question about a sentence in Group A1's story which I left uncorrected: *Humans started to destroying everything in sight*. Rita felt that the correct sentence should have been *Humans started to destroy everything in sight*. I then acknowledged I had not spotted the error, confirmed Rita was correct, and thanked her for pointing out a language issue I had missed. Despite Rita's lack of participation, she was clearly still following and paying attention to what was going on in the project, not only her own group's but also the other group. This suggested that passive learners could still benefit from the project.

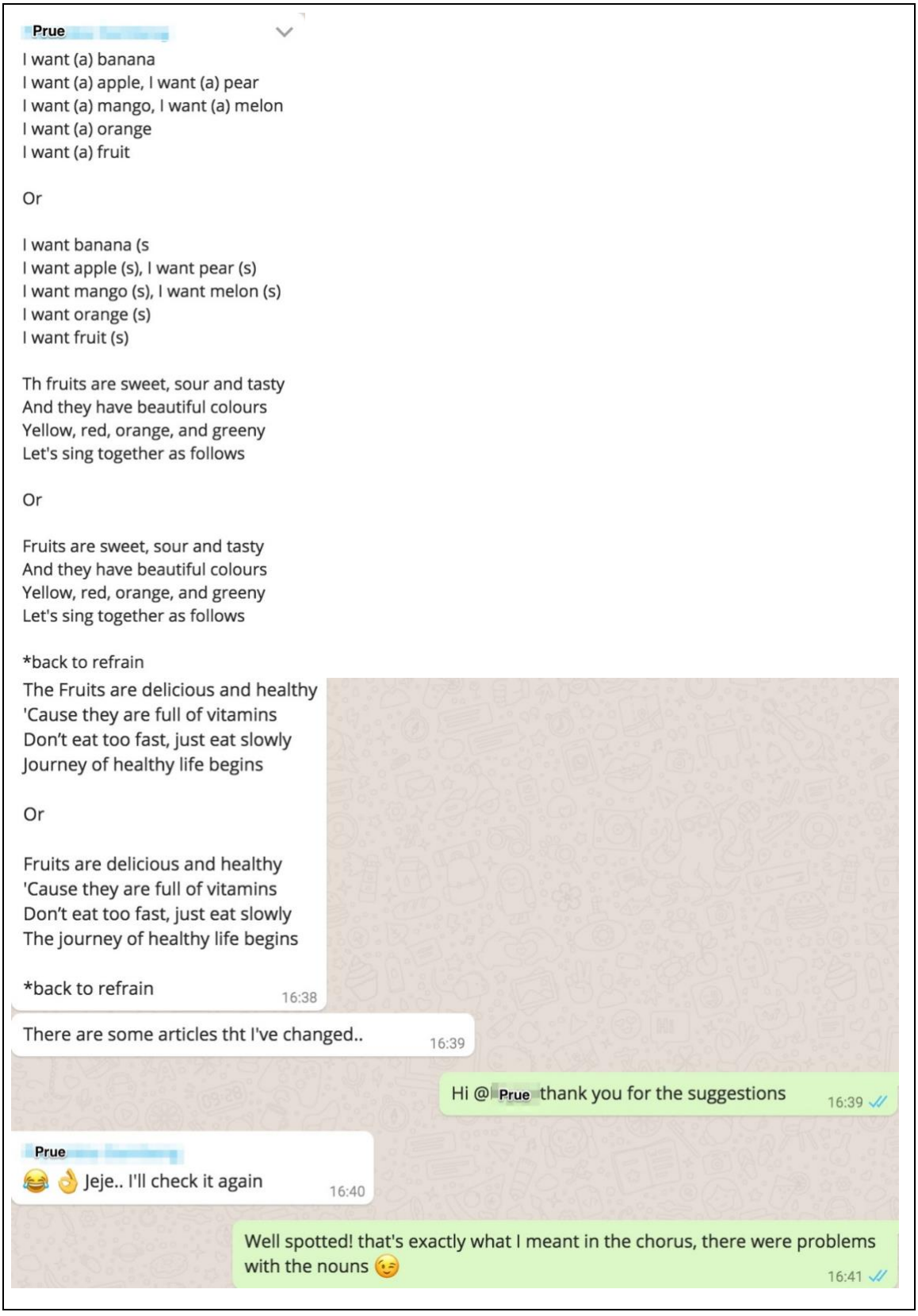
Compared to Study A, FFI was provided earlier in Study B, particularly for Group B1 and B3. As their chosen output was relatively simple in content, they finished their draft quickly. When I felt I could not push learners to improve their content any more, it was time to turn their attention to language. For example, in the extract below I started with indirect feedback. I commented that there may have been language errors in Group B3's chorus, but did not state what the errors were so that learners could identify and correct the errors themselves. Kerri's reply indicated she had tentatively guessed that the language issue was caused by inaccurate noun forms.

I want banana I want apple, I want pear I want mango, I want melon I want orange I want fruit	**Jessica Sampurna** 11 Oct 2016 Selected text: *I want banana* The first verse: can you check if the lines are all grammatical? :) **Kerri** Mm.. thanks for the hint.. mm.. is it worng if we say I want banana? Mm.. should we put 'a' in the sentence? I want a banana. Or mm... the wrong part is I want fruit, and we should change it into I want fruits? I'm not really good in grammar? Need help here devi and prue ^^

(GD, Group B3, 11/10/2016)

Example 5.5 FFI provided earlier due to the simplicity of learners' content

Later in the day, Prue offered some language corrections, not only for the chorus but the whole song.



(WA, Group B3, 11/10/2016)

Example 5.6 FFI resulting in learner's language corrections

I confirmed that Kerri and Prue had identified and corrected the errors. Since both the plural and the singular form of each fruit are grammatically correct, e.g. *bananas* and *a banana*, I suggested that they use the plural form so that the lyrics they created had the same number of syllables as the original Indonesian lyrics, making it easy to sing along with the same melody. Group B3 accepted my suggestion and used the plural form in their draft on GD.

Meanwhile, since Group B2 and B4's outputs were stories (and comprehension questions for Group B2), which I deemed more complicated content-wise, FFI for these groups was withheld until they had received intergroup peer feedback as I wanted them to focus on content development before addressing language issues. Two learners in Group B2 and one learner in Group B4 individually revised their language (and content) after receiving feedback from the other groups. However, their final version was riddled with language errors, making it difficult to highlight any specific issues. I decided to provide both groups with direct corrective feedback, essentially correcting most if not all language errors in Group B2 and B4's output, and giving them an opportunity afterwards to ask questions about the corrections given. None of the learners in Study B queried my corrections.

5.3 Peer review

Two types of peer review occurred in the study. Learners gave feedback to their own group (intragroup feedback) during the drafting and revising process, and/or to other groups during the intergroup feedback session. Comments given could be on content, language, or both. Since this chapter focuses on language learning opportunities, language-focused peer feedback is given focus, although examples of content feedback are to a lesser extent also presented here.

5.3.1 Intragroup feedback

Language-focused intragroup peer feedback occurred two ways. Firstly, some learners chose to made direct corrections on their peers' output. This could be observed in all groups. For example, in Example 5.7, Hector from Group A2 made linguistic changes to bullet point ideas jotted down by Heidi.

I think the story can begin with:
· · A pig mom tell her three sons to build their own houses
· · They are not a rich family, so all they have ~~is~~are ~~just some~~ some peas and a little goldfish.
….
Then one day, on a stormy and rainy day, the pig mom passed away and then her~~piggy mom's house has fall~~ house fell, and then 1st and 2nd pigs has no place to sheltering, but they are not dare to ask 3rd pig, so they're stranded and have no place to sleep now, while 3rd pig is safely in his house now.

(GD, Group B2, 23/8/2016)

(Orange: Hector)

Example 5.7 Peer feedback in the form of direct corrections

Secondly, one learner in Group B3 gave language feedback by leaving comments. After collaborating on their first lyrics, Kerri on her own added comprehension questions to accompany the lyrics. The next day, Prue left comments and edited Kerri's question by inserting the preposition *in* and changing *Bahasa Indonesia* to *Indonesian*.

2. What is longan Bahasa Indonesia? What is longan in Indonesian ~~Bahasa Indonesia~~?	**Prue** Selected text: *Bahasa* Ummm, what is longan in Bahasa Indonesia? Adding the article "in"

(GD, Group B3, 14/10/2016)

Example 5.8 Peer feedback in the form of comments

This seemed to be accepted by the rest of Group B3 as nobody questioned the change made by Prue.

5.3.2 Intergroup feedback

In Study A, three learners gave asynchronous language-focused feedback to the opposing group. It should be noted that language-focused feedback was occasionally mixed with content-focused feedback. For example, Hector's comment in the table below *i think the grammar should be kept in a consistent form, since all of these happened in the past, i think better to use past tense for the whole text? However, to be honest, I really enjoyed the story guys! job well done! Tee-Heee!* The first part was language- focused, the next part was content-focused (in the form of a praise). In the analysis, Hector's comment was coded twice: *language-focused feedback* and *content-focused feedback*.

The most prolific provider of intergroup feedback was Hector with seven language commentaries, followed by Ann with five, and Vera with one. Learners commented on different language features. In Example 5.9, Hector gave feedback on grammar, Ann on vocabulary and pragmatics (by asking if her suggestion, *word of wisdom,* was too formal).

Once upon a time, earth was a beautiful place to live in. Big forest can be found everywhere. However, there is one that is different than the others. People called it “Solemtation”. This forest is located in Indonesia where animal live in harmony and prosperity. They never lack anything they need from year to year. The reason why people called it Solemtation because it was very warm and attract animal , and even people become curious of it. Inside this forest there was an animal kingdom led by the wise and powerful tiger.	**Hector** Selected text: *can* I think 'could' would be better as it is the past :D Selected text: *there is one that is different than the others. People called it “Solemtation”* i think the grammar should be kept in a consistent form, since all of these happened in the past, i think better to use past tense for the whole text? However, to be honest, I really enjoyed the story guys! job well done! Tee-Heee! (GD, Study A, Intergroup feedback, 25/8/2016)
Since she didn’t have any other thing to give to the last son, she decided to give him a wise sentence, which is that he has to work hard to build his own house.	**Ann** Selected text: *last son* Since you guys were using eldest to describe the first son, I think it would be nice to keep it consistent by using 'youngest' to describe the third /last child! Selected text: *wise sentence* maybe can be replaced with 'word of wisdom'. Or is it too formal? I'd like to hear your thought, group A2! Selected text: *which is that he has to work hard to build his own house* Can be rephrased to ‘in which he has to’ to cut down the words :D (GD, Study A, Intergroup feedback, 24/8/2016)

Example 5.9 Various language features commented on by learners

Learners responded differently to feedback received from their peers. For example, Pete incorporated all specific language corrections from Hector, e.g. replacing *can* with *could*; *house* with *home* or *shelter*. However, Pete did not respond to Hector’s broader

suggestion to use past tense throughout the story. It was not clear why Pete opted to incorporate only the specific corrections. He could have been busy (there was no group interaction happening on the day he edited Group A1's output based on Hector's feedback) and thus did not have time to edit the rest of the text into past tense. Another explanation could be Pete's lack of confidence regarding grammar. When learners were asked to edit their draft before the Intergroup feedback session, Pete stated *Im not really know how to use present and past tense very well, sorry not much helping here* (GD chat, Group A1, 23/8/2016).

Meanwhile, Hector took different actions in response to Ann's comments. Hector accepted Ann's first suggestion (changing *last* to *youngest*). Instead of replacing *a wise sentence* with *word of wisdom* as per Ann's second suggestion, Hector decided to use his own modification: *some wise words*. Lastly, instead of replacing *which is that* with *in which* as per Ann's third suggestion, Hector changed it to *which are*. Here, Hector demonstrated his ability to engage critically with peer feedback, incorporating it if deemed appropriate, and thinking of other more suitable alternatives when necessary. This ability could be due to his high level of language proficiency; in the interview he mentioned that he had just scored 8.0 in the IELTS exam, i.e. he was a very good user of English according to the IELTS rating (IELTS, n.d.).

Since she didn't have any other thing to give to the ~~last~~ youngest son, she decided to give him ~~a wise sentence~~some wise words, ~~which is that~~ which are he has to work hard to build his own house.

(GD, Study A, Intergroup feedback, 26/8/2016)

(Purple: Hector)

Example 5.10 Critical engagement with peer review – 1

Noticing that some learners were online but not giving their review, I directly encouraged them to give feedback. I specifically told them that they could choose to give positive feedback (i.e. praise) and use Indonesian if needed. Two learners took my advice and gave their content-related feedback.

Ivy **16:33** Sorry for using bahasa to answering. Secara keseluruhan saya suka ceritanya..sederhana tapi banyak makna yang didapat. Tetapi akhir dari ceritanya sudah sering dijumpai. Saya berharap sesuatu yang berbeda dari cerita pada umumnya Sorry for using Indonesian. Overall, Iiked the story..simple but it had a lot of meanings. But the ending was generic. I was hoping for something different from the usual stories. (GD chat, Intergroup feedback, 24/8/2016)	**Heidi** I'm not sure what to improve in this story, but I enjoyed reading it and really like the story. Good job, guys! :D (GD, Study A, Intergroup feedback, 25/8/2016)

Example 5.11 Learners giving positive feedback on content

In Study B, Kerri was the first learner who gave her feedback on the Intergroup GD document. She edited Group B4's draft by making seven *in-text direct correction*s on the mechanics of writing (spelling, punctuation, capitalisation; see Example 5.12) and leaving a *comment*. In this thesis, *in-text direct corrections*, i.e. corrections made on the drafts, were considered different from *comments* (which are located on the right-hand side of the text). This was because *comments* occasionally generated a discussion (someone could reply to a comment) and they could be marked as resolved, whilst *in-text direct corrections* did not allow any of these.

~~SUREPRIZINGLY~~Surprisingly, as a reward his sister give him a ticket for java jazz. Because his sister would perform as pianist during the concert. ~~finaly~~Finally , he discover another life lesson in which the truth would worth. It's priceless.	**Kerri** 24 Oct 2016 Selected text: *The boy who lie to his family and friends* I've made some correction for the story.. I hope this helpful.

(GD, Study B, Intergroup feedback, Kerri giving feedback to Group B4, 24/10/2016)

Example 5.12 Kerri giving feedback on the mechanics of writing

On numerous occasions during the project Kerri had expressed her lack of confidence in grammar. However, when asked to give feedback on other groups' drafts, her attention was mainly on grammar (she also gave feedback on content). Kerri also gave grammatical feedback to her own group during the intergroup feedback session, as can be seen in Example 5.13.

Ya-ra-be so-ren do-re-ri There~~'s so much (~~ are man~~y))~~ y animals to count	**Kerri** 25 Oct 2016 I think we should change there's into there are since animals is plural noun. Hahhaha give comment to my own group :P (GD, Study B, Intergroup feedback, Kerri giving feedback to her own group, 25/10/2016)

Example 5.13 Kerri giving more feedback on grammar

Seeing that Kerri had edited Group B4's drafts directly, Roy commented: i think it's better that you only comment on it than edit it directly bcs maybe the others want to see the original ☺ and i think it's up to them whether they want to change it or not (GD, Study B, Intergroup feedback, 25/10/2016). I did not state how learners should give their feedback – directly on the draft, or as comments, or both – so Roy's comment highlighted his understanding of peer review, i.e. it was up to the recipients to decide what they wanted to do with the feedback.

As mentioned in Section 4.2.2, in Study B only three learners gave peer feedback. It was not clear why the rest of learners in Study B did not give feedback, but I observed that the three learners who did were active participants who made major contributions to their team, often instigated interactions, and had a reasonably high language proficiency (despite Kerri's professed lack of grammatical knowledge).

Roy was the most prolific provider of feedback, making 15 language-focused comments (on the right-hand side using the Insert Comment function so they did not change the text commented on), followed by Bob with 10, and lastly Kerri with 3. As for the recipients, Group B2 received 21 language-focused comments, B3 received 4, B4 received 3, and B1 received 0.

A comparison of the number of language-focused comments received by each group in intergroup feedback session yielded an interesting finding. As can be seen from Table 5.1 below, in Study A, Group A1 and A2 received a comparable number of language commentaries at six and seven respectively. However, in Study B, there was clear disparity in language commentaries received by each group.

Table 5.1 The number of language-focused comments received by each group during intergroup feedback session

Group	Number of language-focused comments received from other groups	Percentage of language-focused comments received from other groups in a particular study
A1	6	46% (6 out of 13)
A2	7	54% (7 out of 13)
B1	0	0
B2	21	75% (21 out of 28)
B3	4	14% (4 out of 28)
B4	3	11% (3 out of 28)

These differences could be due to the type and complexity of output created by each group. Groups A1 and A2 both wrote a story and comprehension questions, resulting in a similar number of language comments. Group B2 produced exactly the same output (story and questions) and received 75% of language commentaries made during the Intergroup feedback session in Study B. Group B3 wrote lyrics for two songs and questions to accompany the first song, but received only 14% of the language comments. Perhaps this was because Group B3's output, albeit similar in type to the aforementioned groups (text and questions), was considerably simpler in language (e.g. use of only present simple tense, use of only one conjunction *and*). The most complicated structure in Group B3 could be found in their question 4, which induced Roy to give a comment below. Roy's comment is another example of learners' mixing both content (the quality/content of Group B3's question) and language commentaries (emphasis on the plural form *vitamins* and rewriting the question with the auxiliary verb *are* and placing it after *nutritions*, as opposed to the original *is* before *nutrition*).

4. What's nutrition contained in the fruit that is good for your health?	Roy 25 Oct 2016 while i think this is good question, i think it's not limited to just vitamins btw i think this is more correct "what nutritions are (yes,it's plural.even if you limit it to just vitamins,it also plural) contained in the fruit?" you dont have to state "that is good blabla" bcs it's obvious that nutritions are good for us (Study B, Intergroup feedback, Roy giving feedback to Group B3, 25/10/2016)

Example 5.13 Roy giving feedback on content and language

Group B1 used a free, ready-made game maker from classtools.net, which then required them to choose their own categories and words to go into each category. They settled on three categories: food; integer; and parts of speech. The extract below shows how Group B1's output looked on GD. Perhaps the the simplicity of the output could be attributed to the fact that this group received no language-focused feedback. There was no grammar to comment on and the vocabulary used was relatively basic, leaving little room for errors. The only slightly unusual word was *casein* (highlighted here for ease of reference), which no learner remarked on although *casein* is not a type of *dairy*.

Category: Food

Fruits	Vegetables	Meat and fish	Dairy
Pineapple	Spinach	Pork	Cheese
Soursop	Carrot	Beef	Yogurt
Banana	Orion	Lamb	Butter
Apple	zucchini	Mutton	Casein
Orange	Mushroom	turkey	Gelato
Mangosteen	Cabbage	Carp	Ice cream
Starfruit	Tomato	Salmon	
Watermelon	Potato	catfish	
Papaya	radish		
Grape			

Example 5.14 Simple output made by Group B1

Curiously, Group B4, which created a story with reasonably complex language, only received 3 (11%) language-focused commentaries. Of course, as previously mentioned, there were also 7 mechanics-related in-text corrections Kerri made directly on Group B4's draft. Still, there were many other language errors that could have been commented on by learners. I speculated that because Group B4's draft was placed at the very end of the drafts compilation (after B1's, B2's, and B3's), by the time learners reached B4's draft, they could have been exhausted or run out of time and therefore did not make as much effort. Nevertheless, comments from other groups (and perhaps coupled with my constant encouragement on WA and LINE) seemed to have spurred Amy (the sole writer of Group B4's story) into improving the story further. Amy not only developed the content more, but also edited the language. Originally there were confusing shifts between present and past tense, but she took on board Roy's comment *um, so are you using past tense or present tense? "was" but then "has"* and used (mostly) past tense in the final output, which improved the readability of the story.

Understandably, not all peer comments were appropriate, and on one occasion this led to the incorporation of inaccurate feedback.

2. Why did the animal starts attacking people? (GD, Study A, Intergroup feedback, 24/8/2016)	**Hector** 25 Aug 2016 Selected text: *starts attacking* i think 'start to attack' would be better? (GD, Study A, Intergroup feedback, 25/8/2016)
2. Why did the animal start~~s~~ to attack~~ing~~ people? (GD, Study A, Intergroup feedback, 27/8/2016) (Orange: Pete)	

Example 5.15 The incorporation of inappropriate peer feedback

However, the rest of the language commentaries were sensible and in most cases, learners showed thoughtful consideration of the comments they received, leading to language improvement in the output. Even when learners decided not to accept changes suggested by their peers, the comments they received often led to attempts to do further revisions as can be seen in Example 5.16.

At one night didi woke up because the teeth are more excruciating pain. (GD, Study B, Intergroup feedback, 21/10/2016)	**Bob** 25 Oct 2016 Selected text: *the teeth are more excruciating pain.* his teeth are in excruciating pain. (GD, Study B, Intergroup feedback, 25/10/2016)
At one night ~~d~~Didi woke up because~~ the teeth are more excruciating pain~~ his teeth got extremly pain. (GD, Study B, Intergroup feedback, 21/10/2016) (Blue: Ava)	

Example 5.16 Critical engagement with peer review –2

Ava's actions indicated that she had thought about Bob's comment, but that she was not fully convinced, and edited the sentence to what she felt was most appropriate. Neither Bob's suggestion *his teeth are in excruciating pain* nor Ava's revision *his teeth got extremly pain* was perfectly accurate.

It should be noted that this thesis does not assess the appropriateness of the language corrections suggested by learners. What is crucial is that peer review activity gives the

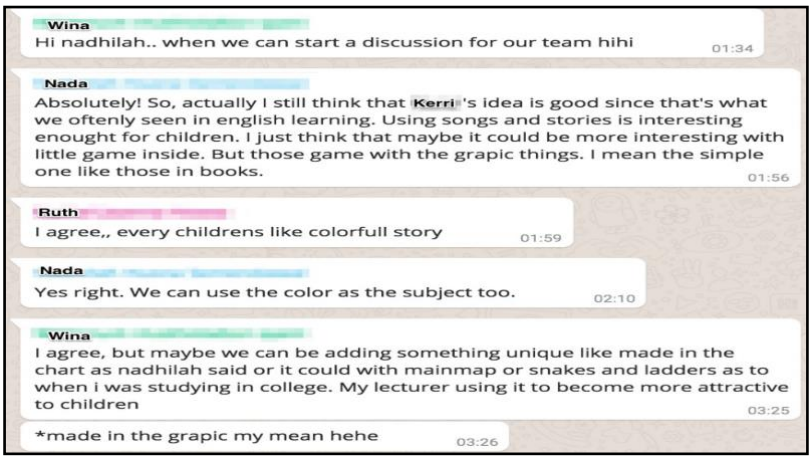
providers of feedback a chance to critically evaluate others' writing and gives the feedback receivers an opportunity to critically assess the feedback and decide what they want to do with it.

As shown in Example 5.16, at the very least, the peer review activity seemed to have given Bob, the feedback provider, a chance to practice reading critically, which could allow him to become a more self-reliant writer (Rollinson, 2005) and helped Ava, the feedback receiver, to notice errors in the draft she and Wina had co-created and motivate her to correct them within the limits of her linguistic competence.

5.4 Interaction in the target language

The use of the target language as a means of social practice in conversations is critical to language development (Chapelle, 2009). Through social interaction, 'learners gain control over their own mental activity and can begin to function independently' (Zuengler & Miller, 2006: 39). Learners' ability to regulate interaction in L2 leads to their ability to use the L2 itself as a cognitive tool (Kurata, 2010).

The data collected in the two studies at the centre of this research showed two types of interaction in the target language: task-related and non-task related. Task-related interaction, i.e. artefact-related discussion, made up the bulk of all groups' interaction. For example, in Example 5.17, learners from Group B2 were discussing what artefact to create.



(WA, Group B2, 7/10/2016)

Example 5.17 Task-related interaction in the target language

Meanwhile, non-task related interaction seldom occurred and was only observable in Groups A1 and B3. For example, preceding Example 5.18, Prue excused herself from Group B3's discussion as she wanted to cook dinner, which prompted Kerri and I to ask questions about Prue's dinner.

(WA, Group B3, 9/10/2016)

Example 5.18 Non-task related interaction in the target language

Example 5.18 shows that when learners were asked to collaborate with each other, they did not always stay on task. Even so, their use of target language, be it in task- or non-task related interaction, is 'both the product and the process of learning' (Zuengler & Miller, 2006: 37).

5.5 Collaborative dialogues and language-related episodes (LREs)

Language-related episodes (LREs) were the unit of analysis used to identify collaborative dialogues (Martin-Beltrán, 2010). Instances of LREs, 'any part of the dialogue where learners talk about the language they produced, and reflect on their language use' (Swain & Lapkin, 2002: 292), were only evident in the interactions of Group A1.

For example, Example 5.19 shows a part of Group A1's vocabulary exercise created to accompany their story. The exercise asked to match words chosen from the story with

the definitions. At this point, the words and definitions have not been jumbled; I would do this on the actual website.

2. culprit (paragraph 4) Definition : someone who have done something either bad or good things 4. quill (paragraph 4) Definition : it's part of an animal to protect themself

(GD, Group A1, 23/8/2016)

Example 5.19 Multiple-choice questions created by Group A1 – first draft

When they finished writing the vocabulary exercise, Ann wondered about the definition of *quill*, which lead to a discussion on alternative definitions. Whilst Group A1 was still discussing *quill*, Ann veered onto the definition of *culprit*.

Ann
17:04
oh guys, I was wondering about quill
if you googled it up without adding the word porcupine, the one that will pops up is the quill that refers to bird's feather

Pete
17:05
yea, i was confused about that too (quill)
but i can found any replacement for that

Ann
17:07
me neither :o
hmmm....how do I make sure they know we're referring to porcupine's quill...

me
17:09
@vera?

Ann
17:12
I'm done editing the questions. Let me know if there's anything wrong!(Still editing)
(ps except the quill part)
also isn't culprit refers to something negative?

Pete
17:12
oh how about spike?
quill replace with spike?
Kawaii Potato
17:14
hhhhmm...no I don't think we can do that
because it is indeed quill, but it's porcupine's quill...?
or...we can always change the question LOL
oh I found a proper definition
'a hollow sharp spine of a porcupine or hedgehog'
'used to defend theirself'

Pete Oswin
17:16
oh okay, let change it hahhaha

Ann
17:17
alright, done

Vera
17:17
how about culprit?

Ann
17:18
I looked it up, and it says 'a person who is responsible for a crime or other misdeed.'

Pete
17:18
so it refer to bad things?

Ann
17:19
yeah, I guess it is!

Vera
17:20
actually yes. but the bear drop the beehives with good intention. So? hahaha

Pete
17:22
hmm let me check something first hahha

Pete
17:25
hmm let me check something first hahha
how about 'a person who arraigned for an offense'
at least its not refer to crime

Ann
17:28
Even with good intention, it's still a crime, isn't it? LOL
(like, it caused a misfortune for the human)

Me
17:30
hehe, interesting discussion.. just a quick note: the definition ideally should be simple, using easy words so that the children/readers can guess the meaning of the word from the context of the story

Pete
17:32
hmm i think its still a crime @Ann hahhaha
Vera
17:35
It is hahaha

(GD chat, Group A1, 23/8/2016)

Example 5.20 Collaborative dialogue

I included myself in the dialogue, but at this point I refrained from influencing learners' efforts to mutually scaffold each other. In the first intervention (timed 17:09), I acted as a facilitator by encouraging Vera to join in the conversation. I then observed that learners' definitions were getting complicated, possibly because learners were using other sources (*oh I found a proper definition* – 17:14; *I looked it up* – 17:18), so I intervened again (17:30), this time as an expert by reminding learners that in such vocabulary exercise, ideally the definitions should be simple so that readers could guess meanings from

context. Pete then changed the definition of *quill* to *a hollow sharp spine of a porcupine. They uses it to defend theirself.*

5.5.1 LRE-induced form-focused instruction

I then played a more pivotal role straight after the LRE episode above. I provided FFI by guiding learners so they could move away from simply copying and pasting dictionary definitions and create their own improved version. Pete made a good attempt but in the end I offered my version as I deemed Pete's definition containing the words *hollow* and *spine* to be too difficult for the primary school children who were the target audience. Pete accepted my suggestion and changed the definition of *quill* to my version. So, the definition of *quill* evolved from the learners' original version, *it's a part of an animal to protect themself*, to learners' second version (a combination of dictionary definitions), *a hollow sharp spine of a porcupine. They uses it to defend theirself,* to finally, my version*, a part of animal that is sharp and used to protect itself.*

Me
17:57
Your original definition: 'it's part of an animal to protect themself'. Your current one: 'a hollow sharp spine of a porcupine. They uses it to defend theirself'
Is it possible to combine the two maybe? (without mentioning the word 'porcupine':)
Pete
18:02
oh wait, let me try combine those 2
It's a part of animal used to protect itself and take form as a hollow sharp spine
how about that one?

---

me
18:02

Excellent effort Pete

Pete
18:03

thanks

---

me
18:04
How about make it even simpler? maybe: 'a part of animal that is sharp and used to protect itself'?

I'm concerned that children may not know what 'hollow' or 'spine' means

---

Pete
18:05
ok hahha let me change it
done hahha

(GD chat, Group A1, 23/8/2016)

Example 5.21 LRE-induced form-focused instruction

In the research diary, I wondered whether Pete had accepted my version because he thought it was a good definition, or because of my position as the teacher: *I'm not sure if they actually understood my advice, or just changed the definition because I am a figure of authority*. I was also concerned that the timing of my intervention was too early, thus hampering possible co-construction of language knowledge in the Intergroup feedback session: *Maybe I shouldn't have done so (intervened) and just let them be? And see if the other group pick up on this issue in the Intergroup feedback?* (23/8/2016).

Another issue to highlight here is a possible example of missed opportunities when a discussion about the definition of *culprit* did not lead to the construction of a new and improved definition. The learners' confusion over *culprit* seemed to be about whether it could be used only for *'bad things'* (Ann's and Pete's opinion), or '*both bad and good things'* (Vera's opinion). This time I decided not to intervene as I was already concerned that I had intervened too early with *quill*. Group A1's original definition of *culprit*, *someone who have done something either bad or good things,* was left unchanged on the day of LRE. In the Intergroup feedback session, Group A2 did not make any comments on the definition of *culprit*. So it was not until my final FFI, in the form of corrective feedback, that I edited Group A1's definition to *someone who ~~have~~ has done something ~~either~~ bad ~~or good things~~.* Some of the words were intentionally crossed out to show that *culprit* is not generally associated with *'good things'.*

It is unclear whether my immediate intervention straight after learners' LREs (as exemplified in the co-construction of *quill* definition) had any impacts on learners' (perceived) learning, but Pete and Vera stated in the interview that one of the new words they learned from the project was *quill*. None of the learners claimed to have learned the word *culprit*, although it could not be ascertained whether this was because *culprit* was actually not a new word for them (but Ann's and Pete's use of online dictionary indicated otherwise – see extract on LRE timed 17:18 and 17:25 respectively), or it was a new word that learners did not mention in the interview, or it somehow slipped from learners' attention because it was not highlighted by FFI directly during LREs, or other reasons.

5.6 Summary

This chapter has described possible language learning opportunities afforded by online PBLL: FFI; peer review; social interaction; and collaborative dialogue and LREs. The findings offer no evidence that language learning has taken place, but do indicate 'demonstrable facilitators for language learning' (Leahy, 2011: 176). The next chapter will describe the findings related to learners' views on their online non-formal PBLL experience.

Chapter 6 Learners' views on their online non-formal PBLL experience

6.1 Introduction

Chapter Six is the final of three findings chapters. This chapter describes the findings related to the third research question: What are Indonesian learners' views on their online non-formal PBLL experience? To answer this question, interview data and learners' reflections were analysed inductively.

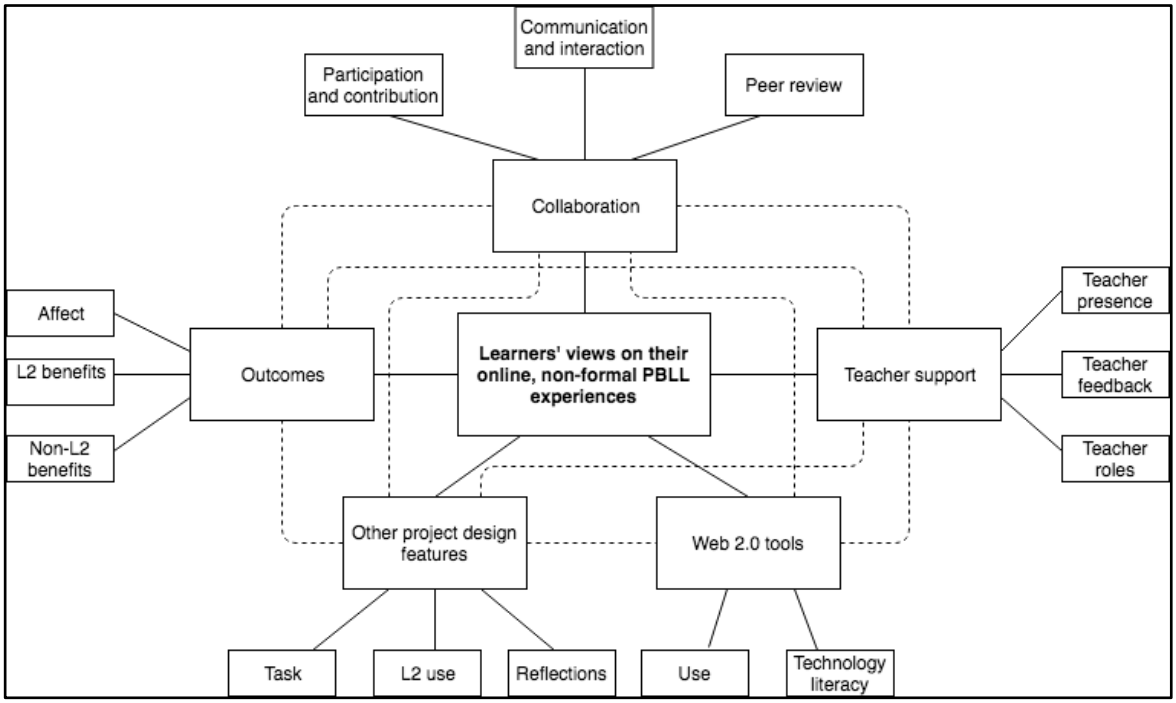


Figure 6.1 Learners' views on their online non-formal PBLL experience

To recap (see Section 3.9.3 for detailed information), the interview questions in Study A and B were similar, but not identical, thus some findings are only applicable to a particular study and this will be clearly signposted.

The quotes used to support findings are labelled with the following identifications: I- Interview and LR- Learner's Reflection. The interviews are followed with a number to indicate on which page the quote can be found in the transcript. Hence, *'Ava, I-2'*, for example, relates to *interview with Ava* and *the quote can be found on page 2 of the relevant transcript*. Learners' reflections are followed with the data source the reflections are contained in and date. For instance, '*Bob, LR, Facebook, 9/10/2016*', relates to

reflections from Bob, which was *posted on Facebook on 9/10/2016*. For interviews conducted in English, learners' responses were transcribed verbatim, while learners' responses in Indonesian were translated into English.

6.2 Collaboration

This category describes how learners viewed the collaboration between their group members and includes three sub-categories: participation and contribution; communication and interaction; and peer feedback.

6.2.1 Participation and contribution

Learners had different opinions about their own and team members' contribution to their group's artefact. Two learners in Study A and seven in Study B acknowledged that they had not made a positive contribution to their team. They were often apologetic about this and attributed their lack of contribution to external private reasons beyond the project:

..I haven't participated much, because I had a lot of choir practice at university, and one of my family members just passed away, so I haven't been very active.. (Ivy, I-1).

I didn't think my schedule was going to be this packed, so I was rarely active. (Devi, I-2).

One learner, Hector, recognising his initial lack of contribution: *I haven't put my max effort as compared to Heidi as I was not feeling quite well, but better late than never, better catch up next week! (LR, email, 23/8/2016)* ended up making an outstanding contribution to his peers: *I'm giving it all out, from rephrasing our story to giving feedbacks to the other group (LR, email, 28/8/2016).*

Four learners from Study B stated that participation in this project was not a priority either for themselves or their peers:

… I wait when I can contribute to the group because I should prioritise my work [at university] first then the group project. (Roy, I-2).

... because each team member were busy with their own things so they focused on their own assignment, so the project was not a priority. (Prue, I-4).

Moreover, in Study B, seven learners preferred to work alone rather than in groups:

I work alone because of my character: I'm a bit individualistic; when I want to do something, I prefer to do it by myself. (Kerri, I-3).

Work alone because I think it will be first, I can decide what I want and then second I can make it like with my time. (Zoe, I-3).

Meanwhile, six learners preferred to work in groups and one learner could not decide her preference.

Eight learners, including those who considered themselves inactive participants, felt there was not enough participation from their peers. This was considered demotivating and resulted in reluctance to initiate interactions:

… I was not very active as there were lots of university activities. Also my group wasn't very active so it affected my, making me inactive because nobody initiated anything. (Wina, I-3).

The group itself was not very active. Actually if I were to start a chat, I was shy, I was afraid that nobody would respond. (Rei, I-1).

Learners who believed they had made a contribution had different feelings towards non-contributors. Five learners, all from Study B, had negative perceptions of inactive participants, ranging from disappointment, sadness, to anger:

Actually I'm disappointed because I look forward to work together with them. (Bob, I-4).

Sometimes friends were maybe busy and didn't respond for a long time, maybe I felt bored waiting for a long time… I felt like I was discussing with myself… Sad… (Kerri, I-7).

To be frankly, Naomi and Macy inactivity kinda pissed me off… (Roy, LR, email, 12/10/2016).

In contrast, five learners from Study A and three learners from Study B did not harbour resentment and rationalised the non-contributors' lack of participation:

For me, it's ok. I don't really mind it (laughed), yeah, I don't really mind at all…They all have a choice, so I don't really find it annoying. (Pete, I-8).

Everyone has their own priority or responsibility so I just understand them. (Wina, I-4).

Learners' acceptance of unequal contribution could have been attributed to their previous group work experience at school and/or university, which was often plagued with the same issue:

It happens all the time when there is a group assignment I would be the one who did it, who did the project. (Nada, I-5).

The experience is rather the same because I often have group assignment and yeah not all group member are active and some of them are missing in action and suddenly they just show up when the presentation is about to begin so they know nothing about it. (Bob, I-4).

They often chose not to report non-contributors as they wanted to maintain good relationship with their peers. Two learners also stated that their teachers' lax attitudes towards equal contribution exacerbated the problem:

Yes, in my school/university days, some people are indeed like parasites… And we don't want to become public enemies by omitting their names from the contributors section right… Well I don't think that I'm the only victims, most Indonesian students are used to dealing with such cases [lack of contribution] I guess. (Hector, I-13).

Actually my teacher didn't really care about the process they only care about the result what can we give to the teacher. Usually they ask who in the group that didn't do the work, but usually… I felt uncomfortable reporting that a friend had not done any work to the lecturer. (Roy, I-4).

Past group work experience also led two learners to feel that cooperation was more effective than collaboration:

If we discuss it together I think that will be a bunch of opinion and it will took longer time for the activity to be finished. (Bob, I-3).

… based on my experience the best collaboration that we can make is divide the task to each people so they can contribute something. (Roy, I-2-3).

Although Bob' and Roy's perceived cooperation to be superior to collaboration, with the teacher's guidance and encouragement, the two of them actually successfully collaborated on their output.

6.2.2 Communication and interaction

Fifteen learners considered communication and interaction to be challenging for two reasons. Firstly, synchronous interaction seemed to be considered important, including by learners whose groups mainly communicated asynchronously, and they viewed time and differing availability to be a constraining factor:

Yes, it was very hard to find a proper time for discussion with the group, possibly due to packed schedule and also time zone [5] differences. (Hector, LR, email, 28/8/2016).

It's difficult to organise team members to work together, for example, one is available on Sunday, the others can't do it on that day. (Daisy, I-3).

Furthermore, eight learners in Study B thought face-to-face interaction was better or easier compared to online interaction:

It's better because we meet face-to-face so can be to the point, this and that. Online we must wait… do they [peers] have time? There needs to be someone who initiates first. (Macy, I-3).

… talking in real life is a lot easier because you have to type it's like you can't write a lot of your expression from typing but if you talk in real life not in online not through chats it will be easier for us to understand because it's more efficient to talk in real life because it concludes more short time if we talk in real life. (Naomi, I-4).

Secondly, lack of familiarity with each other made nine learners feel uncomfortable and this impacted on the quality and quantity of interaction:

Maybe because we didn't know each other very well… Awkward communication. I felt a bit hesitant to start a conversation or reply. (Ivy, I-4).

5 Indonesia recognises three time zones in its territory: Indonesia Western, Central, and Eastern Time Zone.

So maybe because we were not acquainted well, so it felt awkward to say, Come, let's work! I feel bad, a bit shy, because this work is voluntary, we can't force them. (Ava, I-4I).

Interestingly, although Ava above explicitly stated reservations about communicating with unfamiliar peers, she was in the end forced to instigate private communication by emailing Wina, whom she only met on the project:

Asking for help is awkward… Last time I contacted Wina after writing one paragraph, because I was really busy… I ended up emailing her asking for her help pls continue my work.. It's impossible for me to email the others because even on WhatsApp there was no response, so I directly contact Wina… I saw [on WhatsApp chat] that she was very responsive and committed. From her comments on WhatsApp, she seemed friendly. About the others, I already gave up. (Ava, I-4)

Wina did not mind being contacted privately by Ava. In fact, Wina was happy to follow on Ava's ideas, which served as a starting point for their group's output. Wina then developed their group's story further and added comprehension questions:

Ava created the story first, so I said, oh that's good, it makes me more motivated to help Ava, because it's group work, collaboration so work together. So I'm happy because someone made a start, giving stimulus, I've created this, all you need to do is continue. What Ava started was already really good, her ideas, so I just needed to continue. (Wina, I-9).

Meanwhile, Ivy, who earlier described hesitation in communicating with unfamiliar peers, also noted the advantage of working with strangers:

I feel more confident. So if there's a mistake, it's ok, someone will fix it. Perhaps if with our own friends or people that we know, we feel more embarrassed. (Ivy, I-3).

Not all learners, however, had problems interacting with unfamiliar peers:

I think they're very welcome with us… (Rita, I-4).

It was fun. I didn't know who [my peers were], but just work… like that. (Heidi, I-10).

6.2.3 Peer review

All learners, including those who expressed their preference to work alone (see Section 4.5.4) appreciated feedback received from their peers:

So I'll choose to work alone first, later when I'm blank, lose inspiration, then post in group or ask for opinions if there is anything missing, anything unsuitable. (Kerri, I-3).

…[but] I think I need their [peers'] opinion so I can revise my work because I think I cannot be the best if there's no other people. (Zoe, I-3).

However, the extent to which feedback was viewed to be useful varied amongst learners:

Although it's not like a big help basically they put their time to help me rearrange the story, so I appreciate it. (Amy, I-3).

Very very useful because Hector's feedback got me to edit it in the better way. (Pete, I-4).

Despite their appreciation of peer feedback, learners did not always understand it, and therefore did not know whether to incorporate or ignore it:

… so for example this Ann, 'I think it would be better to type "then it give the pig", you can leave the "it" entirely'… so yeah although I didn't understand what she was saying, also what the suggestion was, but the point is she corrected the words she put in blocks.. (Heidi, I-1).

Their comments I don't really understand because they used informal language, so I was not sure how to answer them. I got confused..' (Wina, I-1).

Heidi further explained that she did not bother asking her peers about feedback she did not understand because *'I was lazy to think, what's the English? [how to ask the questions in English] (I-4)*. It appeared that asking questions in English was difficult for Heidi, and for her it was easier to just ignore what she did not understand.

When it came to giving peer feedback, learners had different feelings, ranging from happy, and eager, to anxious:

It's a nice thing to do… It's nice to help other people sharpen their writing skills. (Hector, I-18).

… they somehow still make some grammar mistakes and in my major grammar mistakes is not allowed so I'm really itch to correct it. (Bob, I-1)

I'm a bit nervous actually… (Ann, I-18).

Learners' anxiety about giving peer feedback was caused by concerns about other's feelings or concerns about being viewed as arrogant:

I was worried that I may hurt their feelings (Vera, I-7).

I'm afraid it would make me [others] feel that I'm smarter than another people, so I didn't do anything with that. (Nada, I-1).

Another oft-cited cause for concern over giving peer feedback was learners' doubt about their own L2 knowledge:

But I'm not sure if it [there] was a grammatical error or not, or if the correction I give out was right or not. (Ann, I-19).

I didn't feel confident because my major is not English. (Ava, I-8).

Learners' uncertainty in their ability to give feedback led to several outcomes. First, two learners, as per my suggestion, chose to give positive feedback (praise):

Does compliment count as feedback? If yes, then I remember I gave them some, or just one compliment… I wasn't sure if there was anything to correct. (Heidi, I-15).

If I don't really understand, I will give feedback "it's good enough", I won't give further comment. (Ivy, I-7).

Second, two chose not to make any comments:

… but on the grammar side, I don't even know if it's right or not… So I didn't have anything to say. (Heidi, I-15).

I just stayed quiet. (Vera, I-8).

Third, they used other sources to help them give accurate feedback:

I will ask my mother. Or my brother, or ask my groupmates. (Ann, I-19).

Giving peer feedback in this project was even more challenging as learners had to do so in English. For example, in the Intergroup feedback session, Vera from Group A1 copied the teacher's comment given to her team and pasted it into Group A2's draft. Vera's action indicated she understood my feedback and was able to apply it to the same issue in Group A2's draft (i.e. answers could be lifted off the story without understanding from context). Vera explained:

Ahh, I copied and pasted [your comment]. If you hadn't given the comment, I would have been confused how to explain the problem because we had to use English. (Vera, I-8).

6.3 Teacher support

This category describes learners' views on three aspects of teacher support: teacher presence; teacher feedback; and teacher roles.

6.3.1 Teacher presence

Teacher presence in this study referred to any actions I took that indicated I was there for the learners, e.g. saying hello, setting tasks, stating her readiness to help, etc., thus basically replicating the feeling that I was present in a face-to-face learning context. Learners in both studies generally valued having ample teacher presence in the project. To reiterate, teacher presence here is a category derived from my inductive analysis of interview data; it should not be confused with the term *teaching presence* in the Community of Inquiry framework (cf. Garrison, Anderson, & Archer, 2000).

Learners appreciated my continuous effort to encourage them despite at times being ignored:

We often did not respond to your messages in group chat, but luckily you're patient and keep encouraging us to do this project. (Vera, I-2).

I feel sorry that you tried so hard to remind us, to encourage us, but I have this matter, or that business. Wow, you're very encouraging to us. (Rita, I-5).

Teacher presence helped to build relationships with learners:

You, from the beginning, there was introduction, greetings, at least [said] have a nice day, you showed that you wanted to be close… I rarely see this from others

[researchers]... From what I see, I really appreciate you, the process, I've hardly ever seen something like this, making us feel human. (Ava, I-5).

I also appreciate when you give comment on Facebook like we just give a Like and then you directly give a comment for us. Like you really pay attention for each participant. (Zoe, I-6).

It also helped to create a conducive environment for the project:

It adds friendly atmosphere to the project so most of us don't think it [the tasks] is a demand but that it is like a friendly request from you. (Bob, I-6).

Knowing they were not left alone gave learners a focus:

… also to prevent us from going out of topic. (Hector, LR, email, 23/8/2016).

So when you greet us, we are reminded again oh yes, there is this and that… maybe we can spend some time to contribute to the group. Usually like that, I checked oh there's a message from Jessica, oh I forgot to check GD, like that. (Kerri, I-6).

Teacher presence encouraged more participation from learners:

… it helped the others to voice their opinions more. Because some people if they weren't asked, they were not going to respond. Although they've been prompted, some still didn't respond. (Ivy, I-5)

Warms up the situation… Like "Hi this is Sunday, are you doing something nice?" Makes the situation better because without that nobody said anything. (Wina, I-7).

Teacher presence was viewed as a crucial element in accomplishing the project:

I prefer if you join us in our activity, so not just let us go, because if you give us freedom, the story would not have been create. (Vera, I-2)

If you don't do that [staying close to participants and guiding them], we won't know how to do this project.. We yeah.. We will not know what we have to do. (Pete, I-9).

Although most learners viewed strong teacher presence favourably, two learners in Study B had some reservations:

I think you're very friendly, everyday you said Hi to everyone… but I actually felt awkward… "Oh, it's the weekend, have a good weekend"… I've never had anything like that. (Prue, I-7).

That's good but it's kind of hunted… It's like you really encourage us but you give it everyday I think you have to give like one or two days off to the participant so they can have a time off from the project. But I think it's also good because you also remind us what should we do. (Zoe, I-6).

Overall, teacher presence was an important element in online non-formal PBLL; the challenge is how to strike a balance between showing teacher presence and at the same time ensuring that it did not overwhelm learners.

6.3.2 Teacher feedback

All learners in Study A and seven learners in Study B found my feedback useful. They generally viewed it as helping to improve the output, both in terms of content and language:

The story became more organised, much better. (Vera, I-4).

Good, they helped us. When there were some mistakes, you helped to correct them. (Devi, I-5).

Learners particularly noted the benefits of direct (explicit) teacher correction given on the penultimate day of the project, after learners had finalised their output:

For me, actually I still learn some things… like… (checking his Google Docs)… "So thereafter all three pigs left their mother's house and went their separate ways"… Well I used to say "went to separate ways" so I think that I can still learn something although my English is quite good already and I think the others if they take this seriously they will also learn something too. (Hector, I-1).

One learner found indirect (implicit) feedback, which I gave during the drafting process, confusing:

I think some of your comments are what is it… it is like a direction rather than comment [correction]… Somehow it is useful but in my case I feel confused in which way do I come. (Bob, I-6).

However, in Study B, three learners never read teacher feedback as they had not used GD at all during the course of the project (see also Section 6.4.2). Also, four learners had only read the earlier draft of their group's GD, at which point I had not given much feedback, and so they also missed the teacher's comments.

6.3.3 Teacher roles

Learners in Study A were not asked specific questions about teacher roles, but learners in Study B named the teacher's roles differently. Two of the most popular label used to describe the teacher was a *facilitator* (by six learners) and a *leader* (by three learners). Amy described how the teacher in this study acted as a facilitator:

OK, when the teacher is like they set the first, and then they giving you the task as what they want, but in facilitating something, you giving them the options, you let them to learn by themselves. But when they're learning, you will help them to make them give all the best effort, give them more options. While the teacher is like because they need to follow the curriculum or module so that's why they got a limitation on… because they will force the students to do A, B, C, while the facilitator is more like wise in giving us the chance to learn more while you giving just clue when you don't really give a lot of instructions, you make us really get like a central of learning. (Amy, I-9).

Eight learners, including those who viewed the teacher as other than a facilitator or a leader, felt that the most important task for a teacher was to give guidance:

Guide all participants and make decisions if there are different opinions. (Macy, I-4).

Yeah, what you've been doing all this time, like giving directions when we were confused and give guidance… (Devi, I-5).

Giving encouragement was also considered an essential task for a teacher in a project:

You have so many roles. Your biggest role is to the encouragement part. (Bob, I-5).

… you really encourage the participant to give their idea, to participate, even you chat, you have a personal chat to us, I think it's quite busy too for you… (Zoe, I-6).

6.4 Web 2.0 tools

This category refers to how learners felt about the use of Web 2.0 tools in the project and how technology literacy resulted in GD disuse.

6.4.1 Use of Web 2.0 tools

Learners had different views about the use of multiple tools that required them to switch from one to another. In Study A, all learners embraced this and showed understanding why multiple tools were used instead of just one single tool:

Because for example we're out and about and we need to contact the others, WhatsApp is useful. If we access it on mobile phone, Facebook is not really convenient. Because their Messenger application is separated [from the main Facebook], and I think it's quite troublesome… And about Google Docs, Google Docs is for editing, I can't imagine if we have to create the file on Facebook, what will it come to? (laughed). (Ann, I-8).

In Study B, whilst the majority of learners were happy to use multiple tools, four learners stated the drawbacks of using these tools (Facebook, WhatsApp, and LINE), which were all generally used as daily communication platforms. As mentioned in Section 3.8.1, I often reposted what was already stated on one tool to the other two so that learners did not miss any updates (as I had no idea which platform(s) were used by individual learners). My action, however, resulted in confusion for three learners:

… it gets confusing, which notification to prioritise, WhatsApp or Facebook, or both are the same' (Macy, I-5).

One learner felt overwhelmed because the multiple tools were accessed in her everyday life, and so she felt that project-related communication was invading her private life. Nevertheless, she was able to see the reason why multiple tools were needed:

I think it's good because it cover all of people needed. Because sometimes WhatsApp user is not a LINE user, Facebook user is not a WhatsApp user, but I think when the participant have it all, it's kind of their life is surrounded by the project like when we go to Google Docs, we see it, when we go to LINE, we see it, WhatsApp we see it. (Zoe, I-7).

Learners were in agreement about the importance of GD as the platform for creating their output. Nevertheless, interestingly, two learners from Study B revealed they deliberately avoided reporting issues they had with GD due to concerns that I would solve the issue and they would then be asked to contribute to their group's output. Firstly, Prue *(I-7)*, who contributed to her team's draft, mentioned she did not receive the email invitation for the new Intergroup session GD (a compilation of all groups' drafts):

Me: Did you check the new Google Docs?

Prue: No, I didn't.

Me: Why not?

Prue: Because I didn't get the email, but although you've told us to tell you if we didn't get the email, I read that… At that time I was busy making lesson plans, there was a demonstration, a presentation, etc, so I became lazy.

Me: So it can be said, if I told Jessica, I would be reinvited, then like it or not, I would have to give input, or read, so it's better not to tell her?

Prue: Yes.

Secondly, Daisy stated she had difficulty downloading GD, but when asked why she did not inform me, who often checked whether all learners had access to the Web 2.0 tools used, her reply indicated she was worried that if she had told me, she would have been asked to contribute to her team's output. Therefore, Daisy made a conscious decision not to tell me she had problems with downloading GD:

I wanted to tell you, but I was worried I couldn't keep my promise to do or edit team's work, because I was busy preparing my [university] research. (Daisy, I-8).

This finding suggested the project or tasks could have been deemed too taxing by learners, to the extent that they had to deliberately withhold important information, such as issues with access to Web 2.0 tools, so that they would avoid being asked to participate. I did my best to encourage collaboration by managing Web 2.0 tools (see Section 4.6.1.2.2), but my efforts could easily be thwarted if learners tactically wanted to avoid participation and used Web 2.0 tools issues to justify lack of participation.

Despite the general consensus that GD was a useful collaboration platform, learners disagreed on which communication platform(s) would have been most useful for the

project. The majority of learners, three in Study A and five in Study B, would have preferred to use WhatsApp than Facebook, citing that WhatsApp was more frequently used in their daily life:

People don't open Facebook often, they check WhatsApp first. Facebook is number two, it's better if everything [project communication] is put on WhatsApp. (Macy, I-4).

I use WhatsApp most frequently. I don't use Facebook often because it often gives useless information so I became lazy opening Facebook. (Wina, I-7).

Only two learners felt that both Facebook and WhatsApp should be employed in tandem:

I think it's ok to use Facebook and then WhatsApp. Because at the introductory stage, there were many things we can see on Facebook and we can post pictures, see their [peers'] profile, in WhatsApp we couldn't do this, just for chatting. In Facebook we can get to know each other first. After we're familiar with each other, we move to WhatsApp for chatting. (Ann, I-8).

Regardless of which communication tools they favoured, the tools' ease of use on mobile phone was considered important:

It doesn't matter Facebook or WhatsApp because I got them on my mobile. (Ivy, I-4).

… most people actually will have their Facebook on their phones right now and they can see the notifications so it's very handy. (Hector, I-7).

6.4.2 Technology literacy

All learners were already users of (or at least familiar with) the communication tools used in the study, i.e. Facebook, WhatsApp, and LINE. However, when it comes to GD, they showed differing levels of familiarity and confidence in using the tool. The number of learners who had or had not used GD prior to the study was comparable, with slightly more learners (four from Study A and eight from Study B) stated never having used the tool before.

Seven of the GD newbies found it easy to use:

This was also my first time using GD. I can use GD easily. (Vera, I-3).

I could adapt [use it] straight away. (Prue, I-7).

Three learners did not use GD at all during the project because they were too busy. Only one of the GD newbies actually had a look at GD, but encountered difficulty and gave up. This implied that her inability to quickly learn how to use GD could have reduced her chance to contribute to her group's output:

Still a bit confused because I haven't learned it further, only saw the menu. I haven't tried to use it… First I was confused about how it looked.. What should I do with this? I haven't tried to learn it… I tried to edit [the story on GD] from my mobile because I use my mobile more, but it looked weird. I'm lazy to learn to use it on my laptop. (Ivy, I-3).

6.5 Other project design features

This category explores other project design features which have not been mentioned in the previous sections and it consists of three sub-categories: task; L2 use; and reflection.

6.5.1 Task

Ten learners felt the main task of the project, i.e. creating content for an English-learning website targeting primary school children, was fairly simple:

I did not have any much challenge actually because it's not really a hard task… (Hector, I-9).

I understand the task quite easily. (Roy, I-2).

However, six learners from Study B, most of whom hardly contributed to their team's output, suggested they were not clear about the task:

You asked me to make a game for children. (Naomi, I-2).

Make reading questions for elementary, junior, senior high students. So the point is to practise making questions. (Daisy, I-2).

The reasons why they did not ask for more information when they did not understand the main task in the project varied, for example:

I wanted to ask, but I was shy, I thought maybe I was the only one [who did not understand the task] because nobody else asked… (Devi, I-2).

… it's because I also had to finish my thesis immediately… (Daisy, I-2).

Although the task was considered simple, learners also elaborated various difficulties in creating their output. Some of these difficulties related to the stages (e.g. brainstorming, discussion) involved in the artefact creation:

I think the difficult part is to find new idea that we use it together to this project. (Pete, I-1).

I find this project is a bit challenging, and not as easy as I though before, where people should discuss the material and gather ideas at the same time… it is quite hard for me to define my own ideas and realise it. (Ava, LR, email, 10/10/2016).

But in practice it was difficult to reach an agreement, this is the best [output]. It needs a long time to make a decision. (Macy, I-2).

The fact that the target website users were children was also considered challenging:

We must think whether the children will understand. Whilst if we're targeting adults, the chance of them not understanding us is smaller. Because children think in a simplistic way, if we make a mistake, they may not understand.. Because they think differently, and if we make a mistake in our content, it may have fatal consequences. (Ann, I-4).

The hard part is I'm not used to teach children and I don't know what kind of language I should use and like the choice of words also, I'm afraid that it will be too hard or another things. I don't have really the idea how should the task will be to make it easy for the children. (Nada, I-3).

Additionally, time and resource limitations meant learners had to subdue ambition and settle for an artefact that could be realistically achieved:

… this is for a website, we must think about content that can be created but doesn't require coding that is too complicated… Yes, yes, it's only a month, it's not possible for me to do it [create an interactive game-based website] in a month. (Ann, I-13).

…because of time and resources limitations, so what my group created was not maximal, so for example we could have created audio or video, we have yet to finish it til now. (Kerri, I-1).

6.5.2 L2 use

Fifteen learners possessed a positive view towards being encouraged to use English as much as possible (though the use of Indonesian was not forbidden) during the project. In fact, knowing that they would be using English was a key motivator for participating in the first place:

… I think the people that join your project their reason is maybe the same with me. They want to improve their English, so using English is kind of the purpose of their reason to join the project. (Roy, I-4).

Learners appreciated the opportunity to use English, which was rare in their daily life. Even learners who studied English literature or Teaching English to Speakers of Other Languages complained that they rarely used English:

At school, the lecture is not really used to use the English, just they usually speak Indonesia so we.. You can hear from my voice right? I can't really speak or pronounce really well.. because I think in here the teacher not give us the opportunity to speak English more, push us to speak English more. (Rita, I-2).

I think in Banjarmasin we don't really have place or so to talk, a foreigner, sometimes it's really less for us to use English, because if we use English with our friend in English department, other students from other department will see us like [showing off]… that's why I want to use English [in this project], because I don't really speak English even I'm in English department. (Zoe, I-5).

Even though learners cherished the chance to use English, seven learners suffered from language anxiety (see Section 4.5.1):

I was confused and my English was not very good, so I had to look up the dictionary to help me communicate…Or sometimes asked my friends. Is my language okay? Because I'm not very confident in using English. I was worried others would laugh at my English because I don't know what's good and correct English looks like. (Wina, I-5).

… because I'm not really fluent in English, so everytime someone says something, have to really think and translate first. (Macy, I-2).

Language anxiety impacted learners' participation and contribution in different ways. Five learners did not let their anxiety interfere with their participation:

… I think it's about vocabulary so I don't really know how to say it [what I wanted to convey] in English because my vocabulary is very limited… I keep on trying [to say what I wanted to say]… When I don't know the English of something, like, what is it… Uh, like new word or something, I usually search it on dictionary first, then… oh and use it to say what I wanted to say. (Pete, I-7).

However, language anxiety sometimes prevented two learners from communicating with others:

Yeah English is maybe more useful so we learn, but sometimes when I'm lazy, better than making mistakes when replying, it's better not to reply at all. (Heidi, I-8).

I thought too much. I've typed, but then deleted, typed again, deleted again… usually like that. (Ivy, I-6).

Language anxiety also stopped learners from asking for clarification when they did not understand peers' (see Section 6.2.3) and teacher feedback:

Actually I wanted to ask but because my English limitation, I don't know how to start my sentence, I was worried you won't understand it. (Wina, I-6).

Accordingly, two learners in Study A and ten learners in Study B believed that allowing the use of Indonesian would have had positive effects on communication:

It [Indonesian] can help, because sometimes I take a long time to organise a sentence in English. (Ivy, I-6).

The group may become more active because maybe the others are scared to use English so they don't want to speak up. (Rei, I-5).

Nevertheless, the remaining learners preferred that English remained the sole language used in the project:

If we don't have the option to use Indonesian, only English, we will have opportunity to use a dictionary, find new words, try to explain something if we don't know, we learn synonyms of the word. (Amy, I-8).

6.5.3 Reflections

Thirteen learners did not respond to my reflection prompts. These learners stated various reasons, including being too busy, missing the reflections prompts, not knowing what to say, and difficulty reflecting in English:

I saw it [the prompts], I wanted to reply, but I got no time. I have to think [what to write and the English translation] first, and I was busy. (Macy, I-4).

I didn't know that you give that one [prompts] for us.. Maybe we lost the information because we not active. (Rita, I-6).

Firstly, thinking what I want to say. And then what's the English words? Oh I want to say this, and then what's the English translation?... sometimes I didn't even know what to say or answer in Indonesian, so never mind, I just ignored it. (Heidi, I-11-12).

Additionally, Nada mentioned her reluctance to share her reflections with peers: *I was like I'm afraid that another people will judge me (I-9)*. When I reminded Nada that everyone was given the option to email their reflection, she responded: *Oh I didn't read the part that I could email you, uh, actually that's already fine (I-9*). Perhaps Nada's apprehension was felt by other learners, as four out of the seven learners who did the reflection activity chose to email their reflection. Even more striking was the comparison of what learners reflected in private (email) and in public (Facebook wall). In emails, learners seemed to be more open and free to express their thoughts; meanwhile, on Facebook wall, learners' reflections were all expressing positive feelings. Of course, it was impossible to examine whether this happened intentionally because learners wanted to save face, or perhaps because on Facebook learners wrote quickly and therefore less thoughtfully compared to an email, or other reasons.

Regardless of whether they reflected on their project experience or not, twelve out of the fourteen participants in Study B seemed to understand the benefits of reflection activity:

You realise something, you discover something new, and then you begin the new insight on how you develop your own, you learn from what you did,, and then how it can improving your next step so you begin on the new point of view from the experience that you have on life. (Amy, I-10-11).

The main thing is to see what went wrong, not just to fix it, but so we can remember it, maybe we can use it [the lessons we learnt] again for the future. Secondly, because we wrote self-reflection in English, it improves my writing skills. (Roy, I-6).

Only two learners did not see how reflection activity could benefit themselves. They both felt reflection benefited only me:

So the researchers know whether their research is successful or not, what they want or not. (Rei, I-7).

This is your project, so you need to know what the participants need as a facilitator. (Ava, I-6).

Ava's comment above was surprising as she was one of the few learners in Study B who submitted her reflection, even if it was only once. Perhaps the fact that she had previously participated in other research activity at her university made her more willing to comply with my request, even when she could not see the benefit of doing reflection.

6.6 Outcomes

This category describes learners' feelings about their project experience and the results of participating in the study.

6.6.1 Affect

Thirteen learners enjoyed their project experience:

Overall, I had a blast doing this. (Hector, LR, email, 28/8/2016).

It was great. (Ava, I-1).

Meeting new friends was considered the most enjoyable aspect of the project:

I think it was really fun and nice to meet new people like Vera. (Pete, I-1).

I got to know people from outside my campus, like Kerri and Prue, they're far away, so adding relations. (Devi, I-2).

Three learners had mixed feelings about the project experience. On the one hand, they enjoyed the experience, but on the other hand they were not happy with different aspects of the project, particularly the lack of interaction in their group:

I think it's really fun…. [but] I was hoping that people who decided to participate would be a group of people who were chatterboxes, but turned out some of them were shy and maybe they were busy. (Ann, I-1).

It was interesting because I felt challenged to create something, to create materials for students. It wasn't easy. Bored because it was always like that, especially about the collaboration between friends was lacking. (Prue, I-1).

Seventeen learners, including the three learners who had mixed feelings about the project experience, were willing to participate in another similar project in the future. Prue explained why she would do the project again despite expressing her boredom earlier:

Actually the problem was the people, each team member, not the project. If the team members were fun, everyone gave ideas, it would run smoothly, in unity, not floundering like this… Basically I agree this project should be repeated, like this again. (Prue, I-10).

Four learners, mainly those who hardly contributed to the current project, were uncertain about participating in another PBLL, not because they were not interested, but because of concerns about their ability to participate actively:

I will be more cautious and I will see if I have another responsibility or not because honestly I feel guilty because I said that I want to participate but I didn't really participate when the project begin. (Naomi, I-7).

Maybe I'll be smarter in choosing the time, will I be busy? If not, then I want to participate again. But if it's in busy months, it's better if I say no, rather than being inactive again. (Rei, I-7).

Their comments suggested regret over their lack of participation and they were mindful not to let it happen again.

6.6.2 L2 benefits

Fourteen learners felt doing online PBLL had improved their English in various ways. Firstly, learners mentioned they learned new vocabulary:

Yes, there were lots of new words, for example "quill", "a swarm of". (Vera, I-1).

... and from the Group 1, I got some new vocabulary like "shelter". (Rita, I-1).

Secondly, learners also mentioned they gained better understanding of some grammatical points:

OK, this past tense thing, I think first I don't really get how to use it in appropriate way but now it's a little bit, yeah.. I think I understand a little bit about it.. Like.. uh.. two days ago, we, the last day we finished this story.. You taught me, right? About how to use past tenses thing.. After I reread again this story, I finally, yeah.. a little bit understand about it… (Pete, I-1).

Four learners felt the project had given them more confidence to use English:

Usually I still hesitated to text my lecturer and friends in English, I'm worried I'll make grammatical mistakes, or whatever… but lately I've started to be confident to text my lecturer in English, because in this project I chatted with you and friends on WhatsApp in English, although my grammar was still messy. (Daisy, I-1).

I had to push myself to use English even though I was afraid. I used to think if I want to say something in English, I had to think about it carefully so it would be perfect, but I looked at other participants… and yeah, never mind, just use it, just relax. So I feel a bit more confident. (Macy, I-1).

Two learners, however, felt they had not improved her English, albeit one of them was more ambivalent:

The language I used was just simple… So I didn't get to use English more deeply, I didn't get that. (Prue, I-2).

I don't think so [I don't think I've improved my English] because the content of Group B1's is game and I think it is… the content was too simple. It is too easy to make so I don't think it help to improve my English, but the thing that I think improve my English actually is our discussion, our brainstorming, not the content of our Group B1 project. (Roy, I-1).

Roy's comment about how the simplicity of output content hampered L2 development corresponded to my thoughts, which was why I encouraged Roy's group to create another output which could challenge their L2 use more. Unfortunately, this group only reached the brainstorming stage and did not have time to finish their second, more challenging output in the form of a story.

How L2 development took place also varied. For example, Roy above mentioned he learned from using L2 in discussion and brainstorming sessions. Others learned from my feedback and/or peer feedback:

When I see your corrections, oh, this is the good language, like that.. Usually I just use it [without much thought], it turned out there were some mistakes, it was better to use this word [the correction]. (Heidi, I-2).

Usually I forget which grammar to use, but when I read [the feedback from peers and teachers], I remember. (Vera, I-3).

Learners could also learn simply by reading chats on group discussion, even if they hardly participated in it:

I gained more vocabulary because in conversations there were a lot of words which I didn't understand, so I looked them up, found out what they meant. (Ivy, I-1).

6.6.3 Non-L2 benefits

Learners identified numerous non-L2 benefits as a result of their participation in the project. The most frequently cited non-L2 benefit (ten learners) was learning to communicate and collaborate with others:

In discussion, how you discussion with other people who doesn't have the same background with you, and then how you understand other people idea and how you compare with their idea and then choose which.. how we collaborate our idea and then make it our project success. (Zoe, I-9).

Usually [at university] if there was criticism from friends, I scolded them immediately, so I say I don't like it. But here, I learned to accept opinions and give suggestions in a nice way. (Prue, I-2).

The two other frequently named non-L2 benefits were learning to be creative and to manage time:

.. it makes us to be more creative about our idea so we can honestly if I could participate more, I'd like to give my ideas… (Naomi, I-1).

Time management. Because we had to find the time, and sometimes, oh no, I forgot, or fell asleep. (Ann, I-4).

It is interesting that, as can be seen in the quotes used throughout this theme, learners who hardly participated in the project, such as Daisy, Zoe and Naomi, still suggested they benefited from their experience.

6.7 Summary

This chapter has described how learners viewed their online, non-formal PBLL experience in different ways. As can be seen in Table 6.1, what some learners considered positive aspects of the project, could be considered negative or challenging by others. Despite this, they all seemed to agree that the project benefited them in some way.

Table 6.1 Summary of learners' views of their online non-formal PBLL experience

Category	Sub-categories	Learners' views
Collaboration	Participation and contribution	Learners had clear views of their own and peers' level of participation and contribution. Learners' passivity resulted in subsequent reluctance to initiate interactions. Active learners either held negative perceptions or accepted the inactivity of their peers. The latter could perhaps be attributed to previous group work experience which led to acceptance that unequal contribution was normal and/or perception that cooperation was more effective than collaboration.
	Communication and interaction	This was considered challenging due to: • time and differing availability; • view that face-to-face interaction was better or easier than online interaction; • lack of familiarity with each other (although some learners had no problem with this).
	Peer review	Learners appreciated feedback from their peers. However, they sometimes neither found the comments useful nor understood them. With regards to giving peer feedback, learners had mixed attitudes. Many were anxious due to: • concerns about other's feelings or being viewed as arrogant; • lack of confidence in their L2 ability; • difficulty in giving feedback in English. Consequently, they chose to give only positive feedback or not give feedback at all. Some learners, however, looked for other sources to improve the accuracy of their feedback.
Teacher support	Teacher presence	Learners appreciated ample teacher presence, which they viewed as helping to: • build relationships; • create an environment conducive to learning; • give learners a focus; • encourage learner participation. Two learners, however, had mixed feelings. They valued teacher presence, but felt that strong teacher presence was overwhelming.
	Teacher feedback	Learners found teacher feedback on content and language useful. They especially valued my direct language correction.
	Teacher roles	Learners largely identified my role to be that of a facilitator, with giving learners guidance and encouragement as my most essential tasks.
Web 2.0 tools	Use of Web 2.0 tools	The majority of learners embraced the use of multiple Web 2.0 tools and understood the reasons why more than one tool was integrated into the project. However, some learners had difficulty using GD and deliberately avoided telling me about this issue for fear they would have been asked to participate once the issue was solved. Although they had different opinions on which, and how many tools should have been used, they generally regarded GD as the most useful tool for collaboration.
	Technology literacy	Not all learners had used GD prior to this project. While some managed to learned how to use it very quickly, others found it

		difficult to use and gave up, reducing their chance to contribute to their group's output.
Other project design features	Task	The majority of learners felt the main task of the project was fairly simple (although some were unclear about the task). Reported task-related difficulties include: • the different stages involved in the artefact creation • the target audience being children • limited time and resources, which restricted the type of artefacts that could be produced.
	L2 use	Most learners had a positive view towards being encouraged to use English in the project. Still, some were anxious about using English, which may or may have not affected their participation level, depending on whether they let anxiety stopped them from participating. Twelve learners believed that permission to use Indonesian would have increased communication, but the remaining learners preferred to have English as the sole language used in the project.
	Reflections	Learners pointed out several reasons for not responding to my reflection prompts: • too busy; • missing the prompts; • not knowing what to say; • difficulty reflecting in English; • reluctance in sharing reflections with peers. Despite the lack of participation in reflection activity, most learners were able to identify the benefits of the activity.
Outcomes	Affect	The majority of learners enjoyed their project experience, especially because they met new friends. Three learners, however, were annoyed by the lack of interaction in their group.
	L2 benefits	Learners felt that involvement in the project had improved their English (vocabulary and grammar) and increased their confidence in using English, either from teacher and peer feedback, active participation in group work, or simply by reading online chats. Only two learners felt they had not improved their English because of the simplicity of the target language used – be it for communication or the actual language used in group artefact – during the project.
	Non L2-benefits	Learners pointed out the following non-L2 benefits as a result of their participation in the project: • learning to communicate and collaborate with other; • learning to be creative; • learning to manage time.

Chapters Four, Five and Six have presented findings in relation to each of the research questions. The next chapter synthesises and discusses these findings in relation to the research literature.

Chapter 7 Discussion

7.1 Introduction

This chapter discusses the findings delineated in Chapter Four, Five, and Six and critically examines how they relate to previous research in this area.

To reiterate, the aim of this research was to explore the implementation of online non-formal project-based language learning in an Indonesian context. It sought to answer three questions:

1. What happens when project-based language learning is implemented online in a non-formal education context?
2. What language learning opportunities does online non-formal project-based language learning afford learners?
3. What are Indonesian learners' views on their online non-formal project-based language learning experience?

Since findings of the three questions were to some extent inter-related, the findings related to each research question will not be discussed separately. Instead, I shall present the salient points representative of the overall study, which were shaped through a consideration of categories emerging from all data as well as the theories underpinning this research, and then highlight their implications.

7.2 Lack of student-centred learning

One of the main features of PBLL is student-centred learning (Sidman-Taveau, 2005; Simpson, 2011). As a teacher, I tried to cultivate a student-centred learning environment; for example, by giving learners the freedom to decide for themselves what artefact they wanted to create and encouraging collaboration However, this study shows that student-centred learning can be difficult to achieve even when other features of PBLL, such as authentic tasks, teachers acting as facilitators, reflection, and collaboration are integrated into PBLL.

For student-centred learning to occur, learners need to be active participants in PBLL. However, in this study, online data revealed learners' generally low participation and

contribution rate. This reflects the limited students' activity in other online studies using Facebook (Adi Kasuma, 2016; Leier, 2017). At the same time, my findings seem to contradict a PBLL study by Sidman-Taveau (2005) in which the majority of students were strongly engaged in the course activities most of the time. This stark difference in students' engagement with PBLL activities in my study and Sidman-Taveau's is likely to be due to the differing research contexts. The participants in Sidman-Taveau's study were immigrants who expressed instrumental, intrinsic, and integrative motivation for learning English. Their motivation increased as they became engaged in their project and peaked towards the end of the project. Furthermore, they came from two intact face-to-face classes, which lasted for three months. They are likely to have had better rapport with each other compared to the online learners in my study, which only lasted for one month. It is reasonable to assume that the learners in my study also started with some intrinsic motivation, considering they all decided to take part in it even though they were aware that no rewards, such as grades, prizes, or money, were given at the completion of the project. Sidman-Taveau's participants gradually moved from being passive learners who waited for the teacher's instructions into independent learners who were able to work collaboratively in the absence of their teacher.

Learners' participation may also be affected by their level of experience in a particular pedagogy. For example, Chakowa (2018) observed that learners who continued their participation into the second round of her study became the driving force for the new learners who just joined her wiki group. Muir (2016) found that business English language learners in her study were not used to PBLL and it took three weeks (in a five-week face-to-face course) before group-level DMCs could be observed. This suggests that experience with a new learning approach is important for student participation. In my study, interview data revealed that learners had no prior experience in online learning, non-formal learning, or PBLL, and so the duration of my research (one month) may not have given them enough time to acclimatise themselves to student-centred learning as evidenced by the low participation and contribution rate.

Active learners had differing attitudes towards their inactive peers. Although some of the active learners were understandably frustrated, many expressed understanding and empathy. This could be due to the collectivist culture of Indonesia or even general

acceptance of unequal contribution as the norm in group work because of their previous collaborative experience. Active learners in this study responded to their peers' inactivity differently. Some (for example, Heidi and Hector) quietly did the work for the rest of the group, without once attempting to encourage their passive team members to contribute. Others (for example, Roy and Ava) frequently encouraged their team members to contribute, e.g. by asking for their input.

The constructivist framework underlying this study views students as active subjects. Nevertheless, some of the learners in my study were not ready for student-centred learning. In five out of the six groups, there was at least one member who was passive, thus echoing Abrams' findings (2016). They cited different reasons, namely external commitments, which were considered more important than involvement in the current project, preference to work alone, feeling of demotivation after observing the lack of participation from other peers and language anxiety. Considering the current study was conducted in a non-formal education setting, learners' availability and/or willingness to participate may have been affected by the perceived amount of free-time they had. When free time is limited, many of the students understandably chose to spend their free time on more high-stake activities, such as university exams and assignments. They also may have preferred to spend their free time relaxing and seeking entertainment (Thoidis & Pnevmatikos, 2014) than doing PBLL, which required additional cognitive efforts. A similar situation can be observed in Inayati's study (2015) which showed Indonesian students' clear preference for receptive L2 activities over productive ones when they were asked to integrate English into their daily life. Listening to songs and watching movies, the two most popular activities chosen by participants in Inayati's study, are typically considered as relaxing activities.

Learners' low participation rate could also be due to their lack of understanding of the main task in PBLL. This finding was surprising to me as I thought I had explained the task thoroughly, encouraged learners to ask questions if they were not clear, and answered all task-related questions raised by learners. During the course of the project, it did not occur to me that not all learners were comfortable or willing to ask questions. Clearly the absence of learners' questions regarding the tasks should not be taken at face value.

Another possible factor affecting learners' lack of motivation to participate in this study is their awareness that unlike in formal learning contexts, their participation, or lack thereof, in this particular study had no tangible rewards (or consequences). Elam and Nesbit (2012) were unsure about the source of learner motivation (i.e. the large proportion of grades assigned to the PBL assignment or PBL as a pedagogy) in their blended PBLL course. My findings seem to suggest that rewards, or lack thereof may have affected learner motivation more than PBLL itself.

Interestingly, some of the passive learners (e.g. Rita and Ivy) still made an effort to read and follow their group's progress. This suggests that preference for receptive learning could be another reason for their inactivity, and this explanation would be supported by the conclusions of previous studies (Adi Kasuma, 2016; Rodliyah, 2016). Interestingly, all three studies were conducted in the South East Asian context. Adi Kasuma's study took place in Malaysia, while Inayati's and Rodliyah's were carried out in Indonesia. Preference for receptive learning is perhaps one of the by-products of teacher-centred education, to which many learners in Asian countries are accustomed.

More encouragingly, however, in this study some learners, although not many, showed active engagement with online non-formal PBLL. When participation and contribution rate (equality) was then combined with learners' level of engagement with each other's contribution (mutuality), online data showed the presence of learners with collaborative and expert interaction patterns. This complements the findings of Storch (2002) and collaborative and expert/novice interaction patterns are considered to be more conducive, than other patterns, to language learning (Edstrom, 2015; Storch, 2002). These participants not only provided scaffolding to other team members in their group, but were also the key participants who made major contributions to their group's artefact.

For example, learners in Group A1 scaffolded each other's performance when collaborating on their group artefact. When encountering language uncertainties, they pooled resources and reached a solution via collective scaffolding. My study did not investigate whether this collaboration had led to improvement in the Group A1's artefact. Still, according to both constructivist learning theory and the sociocultural approach in

SLA, real-life communication and interaction occurring in a collaborative process may promote the development of (language) knowledge.

Several factors could have influenced learners' interaction pattern. First, the existence of individuals who were active could have (but not always) encouraged the other members of their team to participate and contribute more; for example, Roy and Kerri who often shared updates of team progress and invited their team members to share their opinions and/or make contributions. Second, language proficiency, could also have affected their interaction patterns; for example, learners who seemed to be more confident and/or fluent in L2 (e.g. Ann and Roy), were found to show collaborative and expert patterns respectively. Meanwhile, learners who showed a passive interaction pattern often cited lack of L2 knowledge and confidence as the reason for their inactivity (e.g. Ivy and Daisy). Groups in which the members shared a similar language proficiency (according to my observation) were found to collaborate better (e.g. Group A1, Group B3) than those in which language proficiency was more varied (e.g. between Hector and Ivy in Group A2). Third, learners' familiarity with the Web 2.0 tools used in the project could also have affected their interaction pattern; for example, those who did not manage to learn how to use GD were the ones who showed a passive interaction pattern. Lastly, the number of learners in a particular group may also have affected their interaction pattern. Groups of three showed fewer members who were passive compared to groups of four. Perhaps in smaller groups, accountability was higher because if a student was the only passive learner in a group of three, it was more noticeable than in a larger group (of four).

It should be noted that even learners who were collaborative (e.g. Hector) or expert (e.g. Ava) also found interacting with others quite challenging because of factors such as the varying availability for synchronous communication and a lack of familiarity with each other. Hector and Ava, however, took actions that enabled them to make meaningful contributions to their group's artefact. Hector acknowledged his lack of contribution and made up for it by developing Heidi's ideas into a story when he had time to do so. Ava identified Wina as the most responsive team member and contacted her privately to ask for Wina's help. Hector's and Ava's actions supported Kamarudin's view (2015) that students' participation is influenced by their persistence. All learners faced challenges in

this project, but the persistent students found ways to participate and contribute, while the passive ones used these challenges as an excuse for their inactivity.

Thus, learners' passivity can be a big issue in online non-formal PBLL. It can create a vicious cycle, such as by deterring learners from even trying to participate for concerns of being ignored by their peers and by potentially irritating some of the active learners, which could further hamper student-centred learning.

7.3 Prominence of the teacher

Learners' passivity early in the project forced me to change my strategy from being 'the guide on the side' to being closer in reality to 'the sage on the stage'. This study extends Storch's (2002) interaction matrix by including the teacher (myself) in the pattern, which may (or may not) have had an impact on individual learners' interaction pattern within his/her group. Because of learners' inactivity observed from the onset of the project, I decided to participate in group interaction from the very beginning, as opposed to letting learners interact with their team members first for a period of time, before slipping myself into the group and then observing any changes in learners' interaction pattern. Still, online data analysis shows that as a teacher in PBLL, I acted as facilitator (Sidman-Taveau, 2005; Simpson, 2011) and as expert (Bradley-Levine et al., 2010; Clark, 2006). This was confirmed by my analysis of interaction patterns, which revealed that I showed characteristics of collaborative-expert and expert when interacting with learners. The interaction pattern I exhibited seems to correlate with how learners in a particular group interacted with each other. That is to say, in groups with few or no passive learners (i.e. A1 and B2), I adopted a collaborative-expert pattern because I felt they could carry on with the project with minimal intervention from me. Meanwhile, in groups with a higher proportion of passive learners, I adopted an expert pattern in an effort to facilitate progress within these groups because they needed more guidance and support from the teacher in order to accomplish the project activities.

This analysis was corroborated by learners' perspectives, many of whom also described my role in the study as a facilitator, not a teacher. This study found that as a facilitator, I played a major role in the interactions that occurred during the project. I was not only the

most frequent instigator of interaction, but also the most active participant in terms of number of posts, chat entries, and comments. The centrality of my position across all groups' interaction was also evident as some learners, such as Rita, Zoe, and Amy, only addressed their posts and chat entries to me or to All (the whole group), but not necessarily to specific peers. I also directed my posts and chat entries to All, but unlike the learners, I also interacted with each individual specifically.

These interaction patterns indicate an inclination towards a teacher-centred learning instead of the student-centred learning environment championed by PBLL. Although I encouraged learners to take more control of their progress during the study, learners' inactivity forced me to increase my level of support and intervention. The need for a high level of teacher support was also found in other Facebook studies (Kamarudin, 2015; Leier, 2017; Lin et al., 2016) and PBLL studies (Simpson, 2011). As I was aware of student participation and interaction issues highlighted in the literature, I adopted suggestions made by previous researchers in order to try to minimise these potential problems. I asked learners to work in smaller groups and do collaborative work (Leier, 2017), included social elements in my task design (Lin et al., 2016), and directly encouraged passive students to be more participative (Leier, 2017). These strategies to some extent worked as some learners participated actively and showed desirable interaction characteristics (i.e. collaborative and expert). Some learners, however, remained passive throughout the project.

Teachers in PBLL play a critical role in helping students accomplish a project successfully (Blumenfeld et al., 1991; Simpson, 2011). For example, in this study, some learners initially mentioned their preference to work alone and/or cooperate to collaborate with others. However, after encouragement and explanation from me, they were willing to try and actually collaborated well. The fact that initial learners' reluctance could be transformed into a positive group collaboration indicates that a culture of collaboration is something that could be cultivated if the teacher makes the effort to encourage it.

Thus, if teachers truly feel their learners would benefit from collaborating with others, they should pay more attention to the collaborative *process* (Abrams, 2016; Park & Hiver, 2017; Storch, 2002) instead of solely focusing on the output of group work. As can be

seen in Group B4, a group could be producing an excellent output, but in this case, only one learner did the majority of the work. The rest of the team could potentially be left with little or even no learning if they do nothing during the creation of the output. So, informed by numerous previous studies on PBLL, my study championed the orientation to learning *process*. In hindsight, however, it may also be necessary to highlight the importance of learners' *products*, particularly in relation to their clear success criteria. Muir 2016 contended that 'it is the final product which functions to generate and maintain motivational momentum' (p. 105). Learners could better envisage their artefact if they had been shown 'examples of excellence', such as existing products from previous projects which were considered to be 'high achievement' (Dörnyei et al. 2016: 149). These materials could be used to start a discussion about the reasons they were successful and subsequently help learners to visualise and plan how to realise their group's goal to a similarly high standard.

Even though the learning environment was more teacher-centred rather than learner-centred, learners did not seem to mind this. In fact, the majority of them appreciated the abundance of teacher presence, although two learners had some reservations. Learners in my study may have been more accustomed to, and therefore comfortable with teacher-led learning activities. The passivity of Indonesian students in English classrooms has been observed by other researchers (e.g. Marcellino, 2008; Fadilah, 2018). This study shows that the online learning environment, a collaborative task, and teacher encouragement did not seem to encourage the majority of them to be more active.

7.3.1 Implications of the lack of student-centred learning and the prominence of the teacher

As a teacher, I may have had too high expectations that learners would be ready to engage in PBLL as they willingly decided to participate. Although I felt I had given them enough information about the study in the invitation email, learners' subsequent low participation and contribution rate indicates that detailed information about PBLL, the tasks involved in the project, and what is expected of learners needs to be made much more explicit to avoid misunderstanding. Specifically, learners need to be made aware that PBLL requires them to participate actively and failure to do so may affect not only themselves, but also other participants. Some learners in this study suggested setting a

minimum participation requirement so that learners can make a more informed a decision before joining the project. This idea resonates with posting requirements suggested, or implemented by other researchers in the area of language learning using various Web 2.0 tools (Adi Kasuma, 2016; Leier, 2017; Rodliyah, 2016; Wang, 2013). Some learners also suggested a stricter entry requirement prior to joining the project, such as asking potential participants to write an essay explaining their reasons for joining. Although strict requirements might help ensure only the more committed learners are allowed in online non-formal PBLL, it might discourage many learners who could potentially benefit from the experience (including 'silent readers').

Educators may also want to consider factors such as students' experience with PBLL before deciding on the type of project to implement. Based on Henry's categorisation (1994), this study was semi-structured. Learners were given voice and choice by encouraging them to decide on what content they wanted to create as their group artefact because I was hoping that giving learners this responsibility and autonomy would foster student-centred learning. Before this, however, when designing the study, I had decided on the overall topic, i.e. learners creating the content of a website aiming at children wanting to learn English. It was important to find an overarching topic that could be inclusive considering the different backgrounds of my participants. Interview data revealed that learners had no prior experience in PBLL, so perhaps it was unrealistic to expect they would enthusiastically participate in the project and take charge of their learning. In contexts where learners have no prior experience with PBLL, they may participate more if the project is more structured (cf. Cusen (2013)). For example, teachers may give options of artefacts to create (instead of giving an open-ended task, such as 'decide what artefact you want to create', as I did in this research) as well as setting a clear timetable and deadlines (instead of 'waiting for the appropriate time' depending on learners' availability or responses, as I did in this research because I did not want to burden or put learners off with a list of tasks and deadlines). Muir (2016, 2019) asserted that a clearly defined ongoing structure, e.g. by specifying sub-goals to be completed throughout the project, is critical to ensure motivated actions in PBLL. At the same time, Muir also acknowledged that a certain level of flexibility in project structure is also necessary to allow the emergence of learners' motivational currents. It is worth noting that a more structured approach to PBLL also means more teacher control, which

goes against the constructivist principles of PBLL. The pros and cons of setting stricter participation requirement and adopting a more structured type of PBLL are matters to be considered by educators at the design stage of the project.

Educators may also need to consider how to increase learners' motivation in non-formal PBLL, which may be perceived by learners as low-stake. This study used writing as the only mode of communication. In the interviews, some learners expressed their desire to practise and improve speaking. Thus, teachers may want to include speaking activities in PBLL, which can easily be facilitated by WhatsApp and LINE. As other research has shown the difficulty of maintaining students' interest in non-graded learning activities, it may also be necessary to provide some sort of reward upon completion of the project (Adi Kasuma, 2016; Chakowa, 2018). Admittedly, the use of rewards had been suggested by my colleagues prior to the start of my project, but I rejected the idea as I was interested to see whether learners would be intrinsically motivated enough to engage with PBLL, which allowed them autonomy, opportunity to use English extensively, meet new people, and produce an artefact to be shared with the public. Nevertheless, this study shows that an external reward is probably needed to boost learner participation. In the interview, Kerri suggested that a certificate of participation would be highly valued as it could be added to learners' curriculum vitae. This suggestion is in line with the aim of implementing online non-formal PBLL, which was to extend English language learning and teaching in Indonesia, with the hope that learners who participate would benefit in some way.

Sidman-Taveau (2005) and Muir (2016) showed that student-centred learning does not happen instantly. Future studies may need to be carried out over a longer period so that more time could be allocated for rapport building, especially considering most learners started off as strangers to each other and the facilitator. This, coupled with the fact that unlike learners in Sidman-Taveau's (2005) and Muir's (2016) research, learners in my study had no face-to-face contact, could be one of the reasons why the majority of them did not work effectively as a group. Strong and positive group dynamics are pre-requisites for a successful group collaboration (Muir, 2019). This could be developed by: allowing sufficient time for team members to get to know each other; establishing clear roles and norms within the group (Muir, 2016); and forming a group identity, e.g. by asking learners

to discuss project title, group name, and socialise outside the classroom (Ibrahim & Al-Hoorie, 2019). When positive group dynamics are established, learners may be more willing to participate and more able to collaborate effectively as a team (Ibrahim & Al-Hoorie, 2019; Muir, 2016).

It is important to allocate sufficient time for the implementation of PBLL. Longer experience in a project may enable gradual development of students' autonomy (Adi Kasuma, 2016). A longer project duration also allows time to encourage learners to formulate a driving question or decide on a project activity that they see as meaningful, authentic, and/or has relevance to their lives (Ibrahim & Al-Hoorie, 2019). This was not applied to my study because I was concerned it would take too much time for learners (with differing backgrounds and interests) and me to agree on a question. A driving question and/or learners' own choice of project activity may give them better understanding of why they are doing the project (Larmer et al., 2015) and cultivate a sense of ownership (Ibrahim & Al-Hoorie, 2019). This in turn could increase their motivation, participation, and student-centred learning (Ibrahim & Al-Hoorie, 2019).

The complexity of implementing constructivist principles of learning should not be underestimated (Smit, de Brabander, & Martens, 2014). Some teachers, myself included, may feel a sense of guilt, or even failure, when their students do not show active engagement in what is supposed to be a constructivist learning environment such as PBLL. However, in reality, student-centred instruction has been shown to be demanding on teachers (Simpson, 2011; Smit et al., 2014). Although the majority of learners in this project rated teacher facilitation highly, some may have perceived this as suffocating. Perhaps in non-formal contexts, learners could do with less, or at least gradually reduced amount of teacher intervention, to make their learning experience more enjoyable. Ibrahim and Al-Hoorie (2019) suggested that in PBLL, most of the teacher's facilitation should take place in its early stages, e.g. by clarifying objectives, schedules, and other requirements. Once learners show sufficient understanding of the tasks and what was expected of them in the project, teachers can give more autonomy to them.

Having said that, there is a concern that, as has been shown in this study, without teachers' (extensive) guidance and support, learners may not participate. This means that

teachers need to fine tune their level of guidance and support depending on the teaching contex and learners' responses and preferences. This can be challenging when dealing with a group of learners with different views of, and needs for, teacher intervention.

7.4 Web 2.0 tools use

Instead of using one Web 2.0 tool (Facebook) as planned in the research design stage of this study, additional tools (WhatsApp, GD, GD chat, LINE) were gradually introduced in response to learners' needs. Since I initiated the majority of posts, chat entries, and interaction, I unwittingly determined how these Web 2.0 tools were used in the study because learners generally followed or responded to my prompts. For example, if I organised a meet-up time on WhatsApp, learners would subsequently use WhatsApp to discuss and decide when to meet-up. This finding echoes Kamarudin's study (2015) where students' actions on Facebook group tend to imitate the teacher's, such as posting links and videos, correcting errors, and motivating peers.

The results from this study suggest that the use of multiple Web 2.0 tools has both its pros and cons. On the one hand, multiple tools were necessary because there was no one all-encompassing tool which could easily facilitate the wide variety of actions taken by the learners and me. For example, GD doc was the only tool that enabled collaborative writing relatively easily. This is not to say that collaborative writing is not possible on other tools, such as Facebook or chat tools, but it would require much more effort and coordination by both the learners and the teacher. Learners seemed to be more interactive and responsive using chat tools rather than Facebook, but in situations where I wanted to make an important announcement, I was able to post on one Facebook wall to reach everyone rather than repeating the post one by one in each group's WhatsApp. Most learners understood the need for and supported the use of multiple tools, but their choice of tools seemed to be affected more by familiarity rather than efficiency. For example, for collaborative creation of group output, GD chat was the most efficient tool as it allows learners to interact and work on their artefact on GD doc without having to switch screens. Yet, only Group A1 utilised GD chat extensively in their collaboration; the other groups were either not willing to give it a try, or tried it briefly and reverted back to chat tools they already used in their daily life (i.e. WhatsApp). In the interview,

preference for WhatsApp owing to its familiarity was also clearly stated by learners. Synchronous GD chat may have assisted collaboration in Group A1 as online data showed it was the most collaborative group. Of course, there was also a possibility that Group A1 was by chance formed of learners who were inherently collaborative, regardless of the Web 2.0 tools used.

On the other hand, the use of multiple Web 2.0 tools sometimes overwhelmed learners, especially when the same information was repeated across different tools. As the teacher, I also found the more tools used, the more difficult it was for me to keep up. Considering the vast array of Web 2.0 technologies, I was sometimes unable to offer help in using a specific tool, such as *Powtoon*, which could potentially be attractive to learners and/or make their artefact more complex and interesting. Left to their own devices, learners did not manage to learn how to use Powtoon and abandoned it.

Findings in this study suggest a discrepancy between learners' perceptions of Web 2.0 tools and their actual use of the tools. For example, learners' positive opinions on the usefulness of GD in artefact creation did not mean they were eager, or even willing to use it. Although GD was integrated into the study with the agreement of learners (who responded positively to my question about whether or not they thought GD would be useful for their collaboration), it turned out that some learners were unfamiliar with GD, or did not have access to GD and some deliberately used this as an excuse for not participating. It might also be an attempt to save face, as not having access to a Web 2.0 tool can be seen as legitimate excuse for not participating. This finding also highlights differences in technology literacy and again, persistence, amongst learners, with some being able to quickly teach themselves how to use GD, while others who encountered difficulty gave up.

The final important finding related to the use of Web 2.0 tools in online non-formal PBLL is the unreliability of internet connection. This has been noted previously in other countries such as Malaysia (Kamarudin, 2015), and significanlty hampered learners' participation in the Indonesian context. It posed a major obstacle and until a speedy and reliable internet connection is available, online teaching and learning activities are unlikely to be effective.

7.4.1 Implications

The advantages and disadvantages of using multiple Web 2.0 tools in online PBLL highlight the need for teachers to carefully think about how many and which tools to use in their contexts, and discuss them with learners preferably before the start of the project. Factors such as tools' affordances, learners' familiarity with and preference for the tools, length of the project, teacher's expertise, time and resources available for ensuring learners have access to and are able to use the tools, as well as speed and reliability of internet connection, may help teachers make an informed decision. Not all learners are digitally literate; some of them may need training in using a new tool such as GD, but are shy or reluctant to ask for help, even if it is offered by the teacher. In a non-formal education setting, teachers may provide online links for support, such as YouTube tutorials, or create and share their own brief guidelines. It should be noted, however, that the role of the teacher in PBLL is to be a facilitator. Too much instruction, even if it is done with good intention, may bring back the role of teacher as an imparter of knowledge, which goes against the constructivist principle in PBLL. New(er) Web 2.0 tools offering numerous features may be attractive for both learners and teachers. It is worth bearing in mind, however, that some of these may not be suitable for online collaboration. An example of this is Powtoon, which I suggested to Group C1 for creating an animated video for their songs. I thought it would enhance their group artefact. Having looked into the app in more detail, I now realise that it is better suited to face-to-face collaboration because although learners can share ideas and collaborate, only one person can actually do the work using a mouse or touch pad on their digital device. Powtoon can be used online, but learners cannot work on the same video simultaneously; they would have to take turns and use the same login credential in order to work on the same artefact. Collaboration with such a system is possible, but is not very efficient for the kind of collaboration required in online PBLL. One way teachers can cultivate collaboration in online PBLL is by ensuring the Web 2.0 technologies used are indeed facilitative of online collaboration.

7.5 Language learning opportunities

Drawing on second language learning theories, this study shows that online non-formal PBLL provides numerous language learning opportunities, namely form-focused instruction, peer review, interaction in the target language, as well as collaborative dialogue and language-related episodes, which occurred during the relationship forming, output producing, and evaluating stages of the project (see chapter Five). Although this study did not set out to ascertain whether learners actually improved their L2, findings show that the majority of learners, including those who did not participate much, reported L2 benefits from being involved in PBLL. This supports previous claims that PBLL enables learners to develop various aspects of L2 (Liu et al., 2010; Sidman-Taveau, 2005; Simpson, 2011). It also tentatively dispels other researchers' concerns over the effectiveness of PBLL for L2 learning targets because learners in these studies used L1 when working on their group artefact (cf. Chang, 2014; Eguchi & Eguchi, 2006).

7.5.1 Interaction in the target language

Interacting with others in the target language is important for L2 development (Chapelle, 2009; Swain et al., 2002; Zuengler & Miller, 2006). In this study, interaction in the target language, which could be task- and non-task related, was a result of an instructional design informed by Chang (2014) and Eguchi & Eguchi (2006). They reported a lack of L2 use as learners in their study largely used L1. This led me to decide from the onset of my research that learners would be asked to use English in the project, which proved to have mixed implications. On the one hand, it attracted learners to participate in my study and gave them the opportunity to use the target language, which was rarely possible in their daily life. Many learners in this study reported that social interaction in English helped them to gain more confidence in using the target language. To reiterate, the use of Indonesian was not prohibited; but from the start, I set the tone by reminding them that the use of English was highly recommended. The majority of the learners followed this direction. In fact, only two learners ever used Indonesian. Ivy resorted to using Indonesian (with my encouragement, so that she would give her opinion) when I asked her to give peer feedback in the intergroup feedback session. Another learner, Prue, once used Indonesian when interacting with her group, but her peer, Kerri, quickly reminded Prue to use English. Although some learners reported that the use of Indonesian would

have allowed for more interaction, their compliance with my request to use English was intriguing. Possible causes include their genuine interest to use and improve their English; their obedience to the teacher as a figure of authority; or their desire to conform to others' use of English. With regards to the latter, many Indonesians hold the view that being different or 'standing out from the crowd is not admirable' (Hofstede Insights, 2018: np). Other learners' use of English could have compelled the remaining learners to interact in English.

On the other hand, it also caused language anxiety for some learners, which then negatively affected their participation and contribution. Still, learners who hardly participated, such as Ivy, could still improve their L2 by exposing themselves to authentic L2 in use, i.e. others' posts, chat entries, and comments. This type of one-way input (without interaction in the L2), according to the nativists' view of second language theories, can facilitate SLA (Krashen, 1985). However, I did not include linguistic input as a possible type of language learning opportunity in Chapter Five. Unlike FFI, peer review, social interaction, collaborative dialogue and LREs, learners' exposure to input is neither rooted in interactionist and sociocultural theories of SLA nor 'visible' to me as a researcher (i.e. could not be collected as data), which would make it difficult for me to examine within the research design. Nevertheless, this study shows that interaction in the target language in PBLL provided rich input to learners, which could then be added as the fifth type of possible language learning opportunities.

7.5.1.1 Implications

Teachers may need to weigh the pros and cons of insisting that learners use L2 in PBLL. Previous research suggests that without strong encouragement to use L2, learners may resort to using L1 almost exclusively as they concentrate on their artefact creation (Chang, 2014; Eguchi & Eguchi, 2006). However, as the findings of this study show, the culture of L2 use discouraged some learners who were not confident with their level of English from participating. Depending on the situation, e.g. when some learners are noticeably inactive, it may be useful to gently remind them that the use of L1 is acceptable if the use of L2 is preventing them from interacting with others. It is worth bearing in mind that the decision to allow L1 use may not be popular with some learners who expect L2 to be the sole language used in PBLL.

The findings also suggest that groups consisting of members with a collaborative interaction pattern led to more interaction in the target language compared to groups in which some of the members were passive. Expert and novice interaction patterns also resulted in interaction in the target language, but the experts may use L2 much more extensively than the novices. In order to promote the use of L2, teachers need to motivate learners to increase their participation, contribution, and engagement with their team mates.

In groups of three or four, there is a concern that interaction in the target language only occurs amongst members who are confident, proficient, and/or motivated to use L2, leaving the weaker members feeling inferior. This could then trigger inactivity within the group, particularly in contexts where losing face, or losing the respect of others in Indonesia (and some other Asian countries, such as Malaysia and China). Therefore, adequate background information on students, such as their confidence, proficiency, and motivation level, may be useful in helping teachers decide how groups in PBLL should be formed. Of course, there is also the argument that teachers should not intervene too much and allow students to decide for themselves how they want to set up the groups. Navigating through the intricacy of working with peers is a good learning point for learners, although it may not necessarily lead to high level of interaction in the target language.

7.5.2 Peer review

The analysis of the online data suggests that peer review resulted in collective scaffolding (Donato, 1994; Villamil & de Guerrero, 1996) and pushed learners to notice gaps and modified their output (Long, 1985; Swain et al., 2002). Learners appreciated comments they received from their peers, which resonates with other research on online peer review conducted on various platforms, such as Facebook (Shih, 2011) and GD (Ebadi & Rahimi, 2017). Some learners, however, were doubtful about the usefulness of peer review. Perhaps a certain level of uncertainty about the accuracy of peer feedback was not entirely a bad thing as this seemed to have encouraged learners to engage critically with peer comments before deciding what to do with them. Learners in this study

accepted, ignored, or used peer feedback as an impetus to edit their work in their own way.

Unfortunately, only a few learners took the opportunity to practise giving feedback. This was regrettable because the act of giving feedback is potentially more effective than receiving feedback (Azizian & Rouhi, 2015; Lundstrom & Baker, 2009). Interview data reveal two reasons for learners' reluctance to give feedback. Firstly, learners were concerned about their peers' feelings. This could be related to societal values associated with Indonesian culture. According to Hofstede & Hofstede (2005), Indonesia is a collectivist society which emphasises the cohesiveness of a tight-knit social group. This may explain why learners were worried about the effects of their feedback on others. Some learners were also uneasy about being perceived as superior to others if they offered their feedback. As such, my findings resonate with Carson & Nelson (1996) who argued that students' cultural background is likely to have an effect on how they tackle peer review activities. However, avoiding being seen as different from others means these learners not only missed the opportunity to help their peers, but also denied themselves reviewing practice which could develop their own thinking and writing skills (Lundstrom & Baker, 2009; Rollinson, 2005).

Another reason why many learners did not give peer feedback was their perceived lack of L2 proficiency. The feedback providers in this study were, according to my observations, those who were reasonably fluent in English. Realising that giving feedback in English may be too challenging for some learners, I modified the task to encourage more peer feedback. A few followed my advice and gave positive feedback. Those who were 'resilient' found other sources of information to help them give feedback. Yet, many learners did not make an effort to give peer review.

Besides the low number of learners who participated in (intra- and inter- group) peer review activities, this study identifies other issues associated with peer review. First, feedback receivers did not always understand their peer's comments, but they did not follow them up by asking for clarification. It seems that the expectations to use English yet again prevented learners to interact more with their peers, even in situations where they needed help or clarification. While encouraging learners to use English resulted in

social interaction in the target language, which was considered beneficial for L2 learning, it clearly also caused some issues when it came to peer review activity.

Second, the peer comments given were, understandably, sometimes inappropriate, which has also been observed in other studies (Shih, 2011; Ware & O'Dowd, 2008). Furthermore, some errors were overlooked by learners (Sampurna, 2011). Because of this, I would argue that it is important for teachers to provide FFI, preferably as a very last resort after giving learners opportunities to consider the quality of the peer review. By doing so, learners can exercise critical thinking before deciding whether or not to accept comments from their peers and modify their output accordingly. Otherwise, there is a concern that some may disregard peer review and/or simply rely on language feedback from the teacher, if teacher correction is given too early in the project (Sampurna, 2011).

7.5.2.1 Implications

The teacher's instruction to the students to give peer feedback, including permission to use L1 and encouragement to give positive feedback, did not seem to drive the majority of learners to do the task. Learners may not be aware that the act of giving peer feedback can improve their own writing abilities. It is thus advisable to explicitly point out that by evaluating others' output, learners may subsequently increase their ability to self-evaluate and revise their own texts (Azizian & Rouhi, 2015; Berg, 1999). In order to reduce learners' anxiety over offending others, teachers may want to teach politeness strategies and facilitative language for giving feedback (Berg, 1999). Awareness that stock phrases (e.g. *I was wondering* or *I think*) result in a friendlier tone could provide learners with a sense of security so that they may be more willing to give peer feedback. Teachers may also need to point out that learners should not be overly concerned about their ability to give peer review or worried about being perceived as *sombong* (showing off). Perhaps it is useful to present the opposing perspective, i.e. learners generally appreciate feedback given by their peers. Furthermore, it is up to them whether or not to incorporate peer feedback. The most important aspect in peer review activity is that learners practise critical thinking and attempt to help each other. Understanding these concepts may make learners more at ease when giving peer feedback.

7.5.3 FFI

Interview data revealed that learners in this study especially valued the direct (explicit) teacher correction given on the final day of the project, which confirmed findings from other studies (Blattner & Lomicka, 2012; Leier, 2017). My understanding about the role of teachers as facilitators in PBLL affected my decision to withhold FFI until after encouraging learners to solve linguistic issues among themselves first. Although I occasionally acted as expert, i.e. by giving language feedback, I was aware that my role was not to teach them L2. Therefore, *during* the process of artefact creation, the FFI I provided was reactive, incidental, integrated, and mostly implicit.

On many occasions, after implicit FFI, learners were able to improve the language in their output. Several rounds of editing gave learners plenty of opportunities to revise the language in their artefact to the best of their ability. This meant that errors remaining on the final draft were likely to be problems that learners were not able to solve on their own. Left uncorrected, these errors may become fossilised (Tomasello & Herron, 1988). Ellis (1989) asserts that FFI helps to prevent fossilisation. Hence, I considered it necessary to highlight the linguistic issues by providing teacher correction at the end of the project so that learners could notice the gaps and integrate the corrected form into their interlanguage (Williams, 2005).

Occasionally, I also provided explicit FFI when I felt learners had discussed a particular language point but still could not reach a satisfactory solution. The current findings indicate that the timing of FFI may have affected learners' (perceived) acquisition of lexical items. The provision of FFI during or immediately after a collaborative dialogue seemed to have resulted in more *noticing* and hence perceived learning by students compared to when FFI was left as final teacher correction. The latter did not result in further discussion as learners did not raise a question when given the opportunity to do so.

7.5.3.1 Implications

FFI is not only highly desired by learners, but also has positive effects on L2 acquisition (Norris & Ortega, 2000). Nassaji (2016) asserted that the focus of L2 research is no longer on the efficacy of FFI, but instead what type of FFI is most useful. PBLL teachers clearly

should provide FFI. Teachers may need to exercise their own discretion in choosing the type and timing of FFI, depending on the situation observed and learners' demonstration of need.

7.5.4 Collaborative dialogue and LREs

Following previous research on peer collaboration, collaborative dialogue in my study was operationalised by LREs (Martin-Beltrán, 2010; Zeng & Takatsuka, 2009). LREs in my study occurred only in Group A1. This is not surprising as Group A1 was the only group that frequently worked synchronously by chatting on GD chat and collaborating on their output on GD. Of course, LREs can also occur in asynchronous interaction; for example, if learners leave a comment on the language they or their peers have produced. However, in this study, such comments resulted in peer correction (i.e. peer review), as opposed to a dialogue.

Similar to Zeng and Takastsuka's study (2009), in my study, learners' attention to form in their collaborative dialogue showed their attempts to create a better group output, rather than attempts to achieve mutual comprehension of each other's message as is the case in the traditional interactionist view (cf. Pica, Kanagy, & Falodun, 1993). There was no communication breakdown identified in this study. This could be because:

- the written mode of communication, which increased processing time and visual saliency of L2 used in interaction and output writing (Yilmaz & Yuksel, 2011);
- the same L1 learners shared, which enabled them to better understand each other's interlanguage (Lightbown & Spada, 2000);
- the simplicity of L2 learners used in their interaction and output, as can be observed in Chapter Four and Five;
- or a combination of these.

An interesting finding of my study related to the number of LREs identified in the online data. Unlike Zeng and Takatsuka (2009) who pointed out a high ratio of LREs to the amount of words in synchronous text-based online chat via Moodle, in my study, analysis of GD chat data demonstrated only few instances of LREs. My findings also contradict Martin-Beltrán (2010) who found many LREs during face-to-face creation of written text. One possible reason for the low number of LREs in my study was my decision to ask

learners not to focus on language accuracy during the drafting stages and instead, ask them to first focus on content development, thus leaving focus on form until the editing stages later on in the project. This decision was taken based on suggestions from the literature (Fathman & Whalley, 1990; Hillocks, 2005) and my own writing experience. Moreover, Leahy (2016) suggested that separating content- and language-focused tasks may be beneficial for L2 output since mixing the two together could lead to cognitive overload.

Nevertheless, since LREs represent 'language learning in progress and therefore are the site of language learning' (Zeng & Takatsuka, 2009: 436), my decision to ask learners to focus on content in the first three weeks of the project inadvertently resulted in the low instances of LREs, which could then imply the reduction of possible language learning opportunities. Had I not intervened and instructed learners to focus on content, there could have been more LREs as learners in my study clearly showed their attention to language accuracy from the beginning of the project.

I occasionally included myself in learners' collaborative dialogue in order to provide scaffolding and ensure that all Group A1 members were included in the interaction, and asked questions to provoke more thoughts about a language point (i.e. *quill*) in discussion. Teacher interventions made during or immediately after collaborative dialogue seemed to be successful in attracting learners' attention as two (out of three) learners in Group A1 specifically mentioned in the interview that they learned a new word, *quill*, from the project. Depending on their aims, most research on LREs has solely examined learner-learner(s) interactions. This, however, does not mean that teachers have no place in collaborative dialogues. Martin-Beltrán (2010), for example, highlighted the value of teacher intervention in learners' LREs. The teacher in Martin-Beltrán's study joined learners' conversation and said for example: '*That sounds scary. So it's called nightmare in English. How do you say it in Spanish?*' (p. 264). Martin-Beltrán (2010: 265) argued that without the teacher's intervention 'it is unlikely these students would have reached this level of crosslinguistic word analysis on their own'. In my opinion, what Martin-Beltrán's calls teacher's 'scaffolding and inquiry' (ibid.), i.e drawing learners' attention to specific lexis, is precisely what has been termed FFI by researchers like Ellis (2012) and Nassaji (2016).

Online data also indicated instances of missed opportunities when I could have intervened to deepen learners' understanding of the word *culprit*, but decided against it because I did not want to intervene too much or too early. Furthermore, I was hoping learners' inaccurate definition of *culprit* would be pointed out and/or corrected during the intergroup feedback session, thereby giving learners opportunity to help each other when attending to form. The error, however, was left uncorrected until I picked it up at the end of the project. Interview data suggests that this may have been too late. Unlike the word *quill* which was perceived as a new word learned from the project, no learner in Group A1 considered *culprit* as a new word learned from the project.

7.5.4.1 Implications

The current study indicates that the number of LREs is influenced by two factors: learners' communication method and task organisation. By definition, LREs require synchronous interaction amongst learners. In order to stimulate LREs, teachers may need to weigh the pros and cons of asking learners to focus on content first as oppose to naturally letting them decide how they want to approach the artefact creation task, even if it means their cognitive load may result in lower L2 accuracy (Leahy, 2016). Lower accuracy could possibly stimulate more LREs, more collaborative dialogue, which may help solve language issues and co-construct knowledge about language (Swain, 2000).

Teachers should consider whether to intervene, and if so when, in relation to collaborative dialogue. As a more capable member of the group (Vygotsky, 1978) teachers have more advanced linguistic knowledge and are more capable of guiding interaction so that it is more fruitful for all learners (Martin-Beltrán, 2010). On the one hand, without teacher intervention, learners may be pushed to reflect on their L2 use amongst themselves.

7.6 Summary

This chapter has discussed the major points identified in the findings in relation to the literature. Student-centred learning, a main feature of PBLL, was difficult to achieve

because of learners' generally low participation and contribution rate. Possible causes for learners' inactivity include:

- lack of experience in, preparation for, and/or willingness to participate in student-centred learning;
- lack of understanding of the main tasks;
- lack of motivation due to the absence of tangible reward (or consequences) in a non-formal learning context.

Nevertheless, some learners, who were persistent, exhibited collaborative and expert interaction pattern and showed active engagement with online non-formal PBLL.

As the project's facilitator, I adopted either a collaborative-expert or an expert pattern, depending on learners' activity and engagement within their group. Despite my best efforts to encourage more participation from learners, some learners remained passive. Although some learners began with clear preference for individual and/or cooperative work, this study shows that with explanation and guidance from the teacher, a culture of collaboration can be cultivated as evidenced by successful collaboration amongst learners who were initially reluctant to collaborate with their team members.

Learners' use of Web 2.0 tools mimicked my use of the tools. It was necessary to use multiple tools because there was not one all-encompassing digital technology that can support online PBLL efficiently. The use of multiple tools not only required coordination by both the learners and the teacher, it may also overwhelm some learners. Issues such as learners' technology literacy and unreliable internet connection could hamper the implementation of online non-formal PBLL.

Online non-formal PBLL provided many language learning opportunities. Firstly, learners had the opportunity to interact in the target language for a real purpose. However, asking learners to use L2 is a double-edged sword. On the one hand, it was the pull-factor that attracted learners to participate in the study. Using L2 during the project was found to increase learners' confidence. On the other hand, language anxiety was found to have a negative impact on some learners' participation and contribution. Secondly, learners had the opportunity to practise receiving and giving peer feedback. Learners appreciated

feedback from their peers, but only a few of them actually practised giving feedback to others because:

- they were concerned about others' feelings;
- they did not wish to be perceived as being superior to others;
- they felt they did not have sufficient L2 knowledge.

Other issues identified in this study include:

- learners not understanding peer feedback, but reluctant to ask for clarification;
- inappropriate comments;
- overlooked errors.

Thirdly, learners received FFI on their output. They were generally able to solve language issues after receiving implicit FFI, but learners expressed a preference for direct (explicit) teacher feedback. The timing of FFI seems to be crucial with FFI given during or straight after a collaborative dialogue resulting in more perceived learning than when it is postponed too long. Lastly, the tasks and interaction resulted in collaborative dialogue and LREs. Only few instances of learners' collaborative dialogue and LREs were identified in this study, which mainly occurred during learners' attempts to improve the L2 use in their group artefact. A possible cause for the low number of LREs is the guidance I gave learners to focus on content in the first three weeks of the project, leaving only the fourth week (after the content was finished) to focus on language.

Next, Chapter Eight revisits the research questions and their findings, presents the unique contribution, and limitations of this thesis, as well as making recommendations for practice based on the pedagogical implications pointed out in this chapter.

Chapter 8 Conclusion

8.1 Introduction

This final chapter summarises the key findings of my study by revisiting the research questions. It also discusses the unique contribution and limitations of my research, as well as recommendations for future research. The chapter concludes with specific recommendation for practice.

8.2 Major findings of the research

This study explored the implementation of online non-formal PBLL in the Indonesian context. The key findings below are presented in order of the research questions.

8.2.1 What happens when PBLL is implemented online in a non-formal education context?

Findings suggest that many learners in this context may not be ready for student-centred learning as championed by PBLL. Despite my extensive support, guidance, and encouragement, only a few learners participated actively, while the rest remained passive. I was at the centre of interaction across all groups. I not only had the highest rate of participation and contribution, I was also the most frequent instigator of interaction and made a noticeably higher number of posts, chat entries, and comments. Still, a learner-centred approach should not be expected to occur instantly. Simpson (2011: 271) asserts that some 'traditional teaching styles' were necessary in contexts where students are accustomed to a teacher-centred learning environment. I largely decided how each Web 2.0 tool was used in the project, with learners imitating my use of the technologies. Poor internet connection as well as some learners' unfamiliarity with GD and their inability to use this particular Web 2.0 tool were identified as the barriers arising from the use of digital technologies to support online PBLL. In addition, language anxiety and other commitments outside the project were identified as other challenges learners faced in undertaking online non-formal PBLL.

8.2.2 What language learning opportunities does online non-formal PBLL afford learners?

Informed by the interactionist and sociocultural models of SLA, numerous language learning opportunities, namely FFI, peer review, interaction in the target language, as well as collaborative dialogue and LREs, were identified in the online data collected during the course of the study. In addition, interview data revealed that in line with the nativist theory in SLA, PBLL also afforded learners one-way exposure to authentic L2 in use (even when they did not participate in the ongoing interaction). Hence, this study suggests that online non-formal PBLL may facilitate language learning. It should be reiterated, however, that this study does not offer evidence of actual L2 gains.

8.2.3 What are Indonesian learners' views on their online non-formal project-based language learning experience?

The majority of learners expressed enjoyment and viewed their experience in a positive light. Still, what some considered positive aspects during the project, such as being encouraged to use English as well as meeting and working with unfamiliar peers and teacher, were considered negative by others, and vice versa. Despite this, all learners, including the more passive ones, agreed that the project benefited them in some way and reported an array of perceived language and non-language gains.

In summary, despite learners' generally low participation and contribution rates, they had favourable views on online non-formal PBLL. The online environment and/or the opportunity to use English may be the 'pull' factors for participating in this type of project. Learners' positive opinion on instructional practices is a crucial element of effective learning (Nunan, 1987). This, coupled with the identification of numerous language learning opportunities during the project, suggest that online non-formal PBLL has the potential to facilitate the extension of English language learning and teaching beyond the classroom.

8.3 Unique contribution of the research

To my knowledge, there is no published research which focuses on the implementation of online PBLL in a non-formal education context. The research presented in this thesis

provides an in-depth examination of the phenomenon. Besides this unusual research setting, this study combines the experience of both the learners and the teacher, which makes it different from previous empirical studies in PBLL which have focused mainly on learners' experience (e.g. Chang, 2014; Simpson, 2011; Zhang et al., 2009). This study is also unique because it connects learners of differing backgrounds from across one country whereas previous studies (ibid.) were conducted with learners from similar background (i.e. intact classes consisting of students with similar language proficiency who already knew each other). The experience of conducting research across time zones is another interesting aspect of this research. I was in the UK, while the learners were in three different Indonesian time zones; this added another layer of complexity in the implementation of online non-formal PBLL. In addition, unlike many of the past studies on online L2 learning and teaching which have primarily used a single Web 2.0 tool, this study utilises multiple Web 2.0 tools. The few studies which utilised more than one Web 2.0 technology, e.g. Chakowa, 2018 and Elam & Nesbit, 2012, did not specifically look into how these digital technologies were used to facilitate L2 teaching and learning. My study closely scrutinises the complexities of navigating various digital technologies in PBLL. The study makes contributions to the literature on PBLL, with a particular expansion into its integration into online teaching and learning in a non-formal context.

8.4 Limitations of the study and recommendations for future research

There are several methodological limitations to my study. Firstly, participants in this research were recruited pragmatically due to the time and resource limitations of a PhD study. This research was small scale with only a total of 21 learners. The use of volunteer sampling meant that the participants in this study may not necessarily be representative of Indonesian tertiary learners. Hence, the findings of this research have limited generalisability. My study, however, did not aim for generalisability in the positivist sense. Instead, it was intended to explore the implementation of online non-formal PBLL in a qualitative sense, for the purpose of unpacking the complexities of the topic under investigation. This study provides a snapshot of what was found at a particular time. Future research could include a larger and more diverse sample, including learners from more disadvantaged backgrounds, i.e. those who have fewer resources and less access to L2 education.

Secondly, the present studies were undertaken over a period of only one month each. The results may be different in a research with a longer time scale. As such, it may be useful to conduct a longitudinal study on the implementation of online non-formal PBLL. A longer study allows more time for rapport building, the construction of a driving question, and would reduce the pressure of collaborating as effectively as possible within a tight deadline (Sampurna, Kukulska-Hulme, & Stickler, 2018). In addition, a longer study makes it possible to involve learners in two or more consecutive projects. Task repetition has been found to familiarise learners with their group dynamics, which then pushes them to be more collaborative (Cho, 2017). In addition, Chakowa (2018) showed how task repetition familiarises learners with learning activities and enables these learners to become the driving force for new members joining the second round of the study. For future research, it may be useful to involve learners who have completed one round of PBLL to participate in another project to examine whether their experience could affect the implementation of PBLL in a positive way. In my study, Ivy for example, stated in the interview: *this was my first time participating (in PBLL). I see oh this is how it works. If I get other offers, I can try harder to help if I join future projects*. Since Ivy was one of the passive students, it would be interesting to conduct a follow-up study that can reveal whether familiarity with PBLL modifies her performance in the next study (Sampurna et al., 2018).

The third limitation is related to the use of learner reflections as one of the research instruments in this study. Only a few learners submitted their reflection, either partly or completely. A more complete set of learners' reflections would have led to richer data, which could subsequently result in higher credibility. Having said that, some of the reflection prompts, e.g. what learners' experience was like, challenges they faced, benefits they gained, were asked again in the interviews, which were conducted with all learners.

Lastly, although several measures have been taken to enhance credibility, namely persistent observation, data, method, analytic triangulation, as well as reflexivity and member checking, the fact that the researcher and the teacher was the same person in this study is likely to have affected the findings. For example, my desire to make the study

a success could have affected students' rates of participation and contribution, which subsequently could have influenced the success (or failure) of the PBLL implementation. In addition, learners may have had a desire to please me. However, due to the non-formal nature of the study, the power imbalance between myself and participants was probably low. Furthermore, learners' generally low participation levels in the project as well as some negative views and constructive criticism freely voiced in the interviews indicated that a desire to please did not play a significant part in the results, although it cannot be completely ruled out (Sampurna et al., 2018). Future research may keep the role of teacher and researcher separate and/or introduce the role of students as researchers.

8.5 Recommendations for practice

The following recommendations for practice are made in order to increase the likelihood of a smooth and successful implementation of online PBLL in various contexts.

Educators interested in implementing online PBLL in a non-formal context should consider setting entry and/or participation requirements to create a level playing field for participants and to minimise non-participation during the project. This may seem to be in opposition with the characteristic of non-formal learning which aims to make education accessible for all, but it is perhaps more realistic to focus on making education accessible for those who are *willing to* engage with the learning process. Otherwise, there is a concern that some learners may not participate at all, or only ever intend to be silent readers, which could have a detrimental effect not only on active learners who are serious about learning, but also the project as a whole. In non-formal PBLL, learners are expected to allocate time for learning in spite of their busy schedule. Thus, it may also be necessary to reward learners' participation, for example with certification of completion, in order to boost and/or sustain motivation and participation.

Since online PBLL offers an array of language learning opportunities, it should be considered as a viable supplement for L2 teaching and learning in formal education contexts. In the Indonesian context specifically, where face-to-face contact hours are limited and thus often focused on exam preparation, online PBLL can be introduced as an add-on program outside the classroom, giving learners an opportunity to use the target

language for authentic purposes. Learners could be given small bonus marks for their participation in the project.

It goes without saying that smooth implementation of online non-formal PBLL also depends on learners' access to a reliable internet connection. Notwithstanding issues with internet connection still common in some parts of Indonesia (and other countries), a list of good practice suggestions below (which are mostly summarised from the Implications in Chapter Seven) may be useful for educators interested in integrating online PBLL, regardless of their teaching context:

- Teachers should make certain requirements part of any PBLL project, such as active participation and willingness to collaborate with others, as well as how they may benefit learners, explicit prior to the start of the project;
- At the onset of the project, teachers should negotiate how many and which digital technologies to use with learners. Teachers should also ensure that the technologies chosen in agreement with the learners are efficient for online collaboration. Furthermore, they should ensure that all students have access to and are able to use the technologies. If not, teachers can either first provide training, or even ask learners to teach themselves (and their peers) to use the tools so that inability to use Web 2.0 technologies cannot be used as an excuse for learners' inactivity;
- Teachers should assess learners' readiness for PBLL before deciding on the type of project suitable for their teaching context. For example, with learners who have never participated in PBLL, a more structured project with 'a robust mix of subgoals and other targets – both L2 and project-specific' (Dörnyei et al. 2016: 163) with an appropriate timescale (Ibrahim & Al-Hoorie, 2019) may provide more familiarity and reassurance;
- Teachers should ensure that the project is meaningful, valuable, and has personal relevance to learners (Ibrahim & Al-Hoorie, 2019);
- Teachers should ensure that learners are clear about the main and the sub-tasks in the project. Just because learners do not ask questions, it does not mean they all understand the tasks. Teachers should check learners' understanding of the tasks not only at the beginning, but throughout the course of PBLL;

- Teachers should focus on both the processes and products of learning. With regards to the process of learning, learners may not be keen on collaborating with others, but this study shows that a collaborative culture can be cultivated. Furthermore, failing to regard learners' efforts in producing their group artefact may lead to learners' dissatisfaction (Ibrahim & Al-Hoorie, 2019). Still, a focus on the product (i.e. outcome) is equally important as it may transform what could have been perceived by learners as abstract goals to more tangible reality and subsequently provide a cohesion to their efforts (Dörnyei et al. 2016);
- Teachers should allocate sufficient time for PBLL. When learners are new to the pedagogy, they may need more time to get accustomed to 'get going', as well as decide what and how they can accomplish their goals;
- Teachers should facilitate the development of positive group dynamics, which may encourage learners to collaborate more harmoniously in order to achieve their common goal. In the context of online PBLL, teachers may need to allocate more time at the beginning of the project for socialisation, both amongst learners and also between learners and the teacher. Teachers should also promote the formation of group identity; for example, they can ask learners to discuss project name, group name, and the role of each group member;
- In relation to language learning, teachers should flexibly adjust the requirements for using the L2 depending on learners' preference, proficiency, and confidence, as well as provide learners with FFI and involve learners in peer review activities. Depending on the teachers' aims in implementing PBLL, they may want to ask learners to focus on content building first and leave attention to language until the later stage of the project, or instead allow focus on content vs focus on language to take place naturally. The latter could potentially result in more LREs, which are generally viewed as evidence of language learning in progress (Zeng & Takatsuka, 2009). On the downside, the latter could also lead to cognitive overload affecting the quality of the content of group artefacts (Leahy, 2016);
- Teachers should prepare learners for peer review by outlining the benefits of the activity as well as teaching and modelling polite strategies when giving feedback. They could also expand the preparation by actually teaching how to give constructive feedback, e.g. focus on content, language, or both;

- Teachers should prepare themselves for the demanding role in facilitating online PBLL. Initially, they may need to provide extensive support and guidance. As learners acclimatise themselves to student-centred learning, teachers can gradually reduce their intervention, whilst at the same time encouraging learners to take more control of their learning. For example, teachers can provide learners with opportunities to reflect on their learning (self-review) and help each other (peer-review);
- Teachers should highlight the reasons for, and benefits of, reflections. Reflections need not be submitted in a written format. Some learners may be more motivated to reflect on their learning experience if they are given the options to choose their own medium, e.g. via a recorded speech so that they could have the added benefit of practising speaking.

8.6 Conclusion of the thesis

As an Indonesian, English proficiency has been vital for my personal and professional growth. It has allowed me to expand my social network as well as participate in and contribute to global learning and teaching communities. Hence, I believe that the level of English attainment in Indonesia needs to be improved so that its citizens can participate effectively in the globalised world. This study suggests that online non-formal PBLL could facilitate English teaching and learning beyond the classroom, albeit not without its challenges. The results of this exploratory study are intriguing and lay the basis for future research both in Indonesia and other contexts.

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Appendices

Appendix A – Online questionnaire (English version)

Indonesian university students' opinions: English language learning & social networking sites

1. If you agree to voluntarily participate in this survey, please indicate your agreement by completing the following questionnaire.
    - Yes, I agree
    - No, I decline

2. Please indicate the extent to which you agree or disagree with the following statements. All the statements below are related to your English language learning experiences. Choose one response for each statement.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't know
2.1	I feel capable of assessing my strengths.						
2.2	I feel capable of assessing my weaknesses.						
2.3	I seek additional material to supplement what is given at school.						
2.4	English classes at school are sufficient to achieve my learning goals.						
2.5	I enjoy studying with other students.						
2.6	Group work is a waste of time.						
2.7	Feedback from other students is useful.						
2.8	I feel that I can learn by exchanging ideas with other students.						
2.9	I worry about making mistakes when using English.						
2.10	English is important for my future.						

3. Which of the following learning activities listed below do you find the most useful?
    - Using the language to communicate with other people
    - Doing grammar exercises
    - Learning new words
    - I don't know

4. Which of the following is your preferred method of assessing your improvement in English language learning?
    - My grades
    - My ability to use the language to communicate with other people

- My teacher's comments
- I don't know

5. Do you use some of your free time to learn English?
    - Yes
    - No

5.a. (Only if participants answer Yes to Question 5)
In your free time, what do you do to improve your English? Choose as many answers as you like.

- Learn grammar
- Learn new words
- Use dictionaries
- Use online translation service (e.g. Google Translate, kamus.net)
- Watch English-speaking materials (e.g. TV, films, Youtube)
- Listen to English-speaking materials (e.g. songs, radio, podcast)
- Read texts in English (e.g. newspapers, magazines, books, blogs)
- Use English to communicate with other Indonesians (e.g. by phone, email, Watsapp, social networking sites)
- Use English to communicate with foreigners (e.g. by phone, email, Watsapp, social networking sites)
- I don't do any of the activities listed above
- Others

5.a.i (Only if participants answer Others to Question 5a)
If you choose Others, please give further information.

6. Are you a Facebook user?
    - Yes
    - No

7. Besides Facebook, what other social networking sites do you use? Choose as many answers as you like.
    - Twitter
    - Google+
    - Instagram
    - Pinterest
    - I only use Facebook
    - Others

7.a. (Only if participants answer Others to Question 7)
If you choose Others, please give further information.

8. In one day, how much time do you spend on social networking sites?
    - 0
    - 1-29 minutes
    - 30-59 minutes
    - 1-2 hours
    - more than 2 hours

9. How often do you access social networking sites on the following devices?

		Never	Sometimes	Often	Very often
9.1	Mobile phones				
9.2	Computers, laptops				
9.3	iPads, tablets				
9.4	Internet cafe				

10. Have you ever used social networking sites for educational purposes at school? (in any subjects, not limited to English classes)
    - Yes
    - No

11. Please indicate the extent to which you agree/ disagree with the following statement: Using social networking sites for learning English sounds interesting.
    - Strongly disagree
    - Disagree
    - Neutral
    - Agree
    - Strongly agree
    - I don't know

12. What is your sex?
    - Male
    - Female

13. How old are you?
    - Between 1-16 years old
    - Between 17-23 years old
    - 24 years old or older

14. Which academic year are you in at university?
    - First
    - Second
    - Third
    - Fourth
    - Post-graduate
    - I'm not a university student
    - Others

14.a. (Only if participants answer Others to Question 14)
If you choose Others, please give further information.

15. What type is your academic institution?
    - State
    - Private

16. Where do you live?
    - Jawa
    - Sumatera
    - Kalimantan
    - Sulawesi
    - Papua
    - Bali
    - Others

16.a. (Only if participants answer Others to Question 16)
If you choose Others, please give further information.

17. Have you ever taken any extra English courses outside of school?
    - Yes
    - No

18. At the moment, are you taking English as a compulsory subject at your university?

- Yes
- No

19. I'm looking for participants in my next study. It aims to examine whether social networking sites can be used to support informal English language learning in Indonesia.
As a token of my appreciation, a small gift will be given to the participants selected in the study.
Are you interested in participating in this study?

- Yes → will go to Contact Details page
- No → will go to Thank You page

Appendix B – Email invitation to participate in my study (English version)

Information sheet and invitation

Invitation:
You are invited to take part in this research because you previously responded to my online questionnaire sometime between December 2015 – February 2016 and you stated your interest in participating in my subsequent study. The information in this email is meant to help you decide whether you still wish to take part in it. If you have any questions, please do not hesitate to ask me.

Research title:
Social networking sites for language learning: Integrating project-based learning on Facebook in the Indonesian context

Researcher's name: Jessica Sampurna
Supervisor's name: Dr Ursula Stickler

Introduction:
I am examining to what extent Facebook can facilitate informal language learning using a pedagogy called Project-based Learning (PBL).

Main features of PBL:
- learning by doing
- collaboration & group work
- learners actively construct their own knowledge
- teachers act as facilitators
- learners' reflections: learning from experience
- the creation of products useful in real life

Purpose of the research:
- To investigate to what extent project-based learning on Facebook can be used to facilitate informal English language learning in Indonesia
- To investigate Indonesian students' perceptions of doing project-based learning on Facebook and its outcome

Your involvement and procedure:
There will be two separate studies on the same project:
- study A (1-31 August 2016)
- study B (1-31 October 2016)
At the end of this invitation, you will be asked to state which study you would like to be involved with, should you choose to do so.

You will be included in the following activities:
- On a private Facebook Group set up for this research, you will collaborate with other participants *to create a website for Indonesian children wanting to learn English*. You do not need prior experience in creating websites. What you will do is to decide on and create the content for the website; for example, by writing your own story and preparing reading comprehension questions, or any other materials which you deem appropriate and useful for these children. To maximise your learning opportunity, you are encouraged to use English when collaborating with others (but if needed, you can use Indonesian occasionally). I, as researcher and teacher on the project, will observe and facilitate your collaboration.
- You will be asked to reflect on your experience (for example: challenges you face and how you overcome them, things you learn during the project, etc.) once a week. Each reflection should take no more than 10 minutes.
- At the end of the project, you will be interviewed by me in Indonesian or English, either via Facebook messenger, Whatsapp, or Skype (your choice). The purpose of the interview is to obtain your opinions on the project and other comments you may have about your experience. It will take approximately 30 minutes.

Confidentiality:
Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Your responses will not be linked to your name in any written or verbal report of this research project. The collected data will be retained for five years and kept in a secure location.

Use of data:
Data and information collected through the research will be used only for the research purpose. The results will be anonymised before they are be used for publications or presentation at conferences.

Right to refuse or withdraw:
Your participation is voluntary and you may decide to leave the study at any time. You have the right to withdraw your permission to use the data up until the point of anonymising and merging data sources, after which I will not be able to identify your individual contributions. The latest date to withdraw your contributions is 1 November 2016 for study Aand 1 January 2017 for study B.

Potential risks/ benefits:
There are no known risks to participating in this study. Potential benefits in participating in my study include having an opportunity to use English for a meaningful purpose, getting to know people of similar interest and collaborating with these new peers, practising decision making, problem solving, and reflecting on your learning. This experience can benefit you as a language learner both in the short and long run. For the wider society, your participation in this research the short time result in the creation of a potentially useful learning resource for Indonesian primary school children, and in the longer term in increased knowledge and awareness of how popular social networking sites, such as Facebook, may be used to improve English language teaching and learning in Indonesia and other countries.

Researcher contact:
If you have any questions, you can ask me or contact any of the following:
The researcher Jessica Sampurna (jessica.sampurna@open.ac.uk)
Faculty supervisor Dr Ursula Stickler (ursula.stickler@open.ac.uk)
Human Research Ethics Committee
The Open University research-rec-review@open.ac.uk

Your decision:
You are making a decision whether or not to participate.
- If you do not wish to participate, you do not need to reply to this email.
- If you wish to participate, please type your name in the 'Name' section below.
Typing your name indicates that you have read the information provided above and have decided to participate in the study.
Please **type 'YES'** in the table below to indicate which study you would like to participate in (you can choose more than one option).

NAME:

(type your name here)

	Approximate date	I want to participate in this study
Study A	1-31 August 2016	
Study B	1-31 October 2016	

Please click on the **REPLY** button to ensure I get your response, thank you! ☺

Kind regards

Jessica Sampurna

Appendix C – WhatsApp invitation to participate in my study

Dear (name),

My name is Jessica Sampurna, a student doing her PhD in the UK. I'm writing this message because you responded to my online questionnaire (sometime between December 2015 – February 2016) and you indicated your interest in participating in my upcoming study. I would like to give you further information and invite you to participate in my next research, which will commence shortly. For more information, please click the link below:
www.jessicasampurna.com

I'm looking forward to your reply, thank you! ☺

Appendix D – Project implementation

	Study A 1 – 31 Aug 2016		Study B 1 – 31 Oct 2016	
Timeline	Objectives & activities	Web 2.0 Tools	Objectives & activities	Web 2.0 Tools
Week 1 (Day 1-7)	<u>Getting to know each other:</u> Learners did ice breaker activity: upload a picture of something important to them and explain why it was important	Facebook	<u>Getting to know each other:</u> Learners did ice breaker activity: introduce themselves by stating their major and hobby.	Facebook
	<u>Getting input:</u> Learners conducted a research on examples of good English learning websites targeting primary school students and discussed what makes them good websites.	Facebook	<u>Getting input:</u> Learners conducted a research on examples of good English learning websites targeting primary school students and discussed what makes them good websites.	Facebook
	<u>Preparing for collaboration:</u> Learners (except Pete) put themselves into two groups. I randomly assigned Pete to a group after checking if he would not mind. Group A1: Ann, Vera, Pete, Sylvia* Group A2: Heidi, Hector, Ivy, Rita *Sylvia's data was not included in analysis because she was considered a drop-out.	Facebook	<u>Preparing for collaboration</u>: Learners set up their own group members. Three learners did not join a group, so I assigned them to one (Group B4), which at the time only had one member. Group B1: Roy, Bob, Naomi, Macy Group B2: Nada, Wina, Ava, Ruth* Group B3: Kerri, Prue, Devi Group B4: Amy, Daisy, Zoe, Rei *Ruth's data was not included in analysis because she was considered a drop-out.	Facebook

			<u>Deciding on project artefact:</u> Learners discussed what artefact to create for the project. After group discussion and my input, Group B3 decided to write new lyrics to fit the melody of Indonesian traditional songs and accompanying questions. I created a GD document for Group B3's writing space. The other groups have yet to reach a consensus.	WhatsApp
	<u>Reflecting on Week 1 experience:</u> Learners were given prompts and options in terms of medium for reflection, i.e. Facebook Group Wall (open for everyone to see) or Facebook messenger (private, only I can see). No learners responded to the reflection prompts.	Announcement made on Facebook		

Week 2 (Day 8-14)	<u>Teacher's ad-hoc poll:</u> I conducted a poll to check learners' preferred tool for communication. The most popular option was WhatsApp, therefore I created two separate group chats on WhatsApp.	Facebook		
	<u>Deciding on project artefact:</u> Learners discussed what artefact to create for the project. After group discussion and my input, both groups decided to write a story and accompanying questions.	WhatsApp	<u>Deciding on project artefact:</u> After group discussion and my input, the remaining three groups reached the following consensus on their artefact: Group B1: using a ready-made free template to create a game (and later on a story as they finished earlier compared to other groups) Group B2: wrote a story and accompanying questions Group B4: wrote a story and accompanying questions I created 3 separate GD documents for each group's writing space.	WhatsApp, LINE
	<u>Brainstorming ideas:</u> Learners discussed possible topics and plots for the story. I created two separate GD documents: one for Group A1 and another for Group A2.	WhatsApp		

	<u>Reflecting on Week 2 experience:</u> Learners were given reflection prompts. No learners responded to the reflection prompts.	Announcements made on Facebook	<u>Reflecting on Week 1 experience:</u> Learners were given prompts and options of medium for reflection, i.e. Facebook Group Wall (open for everyone to see) or email (private). Two learners (Bob and Kerri) wrote their reflection on Facebook Group Wall. Two learners (Roy and Ava) wrote theirs in an email.	Announcements made on Facebook, WhatsApp
			<u>Group B3:</u> Started drafting their lyrics and questions.	GD, WhatsApp
Week 3 (Day 15-21)	<u>Drafting</u>: Group A1 and A2 created their first draft (and receive ongoing teacher feedback)	GD, GD chat	<u>Group B1:</u> Roy and Bob worked together and finished their game. Following on from my suggestion, they agreed to challenge their English more by writing a story. After discussing their basic plot, Roy jotted down bullet point ideas	GD, GD chat
			<u>Group B2:</u> I unsuccessfully attempted to get Group B2 to discuss and agree on a basic plot for their story. So based on a very short brainstorming session with Ava, she decided to provide bullet point ideas, which could serve as Group B's starting point should they want it. Ava transformed my bullet points into an unfinished paragraph. Wina finished the story by adding two more paragraphs. Wina also wrote the accompanying questions by herself.	WhatsApp, GD

			<u>Group B3:</u> Finished the lyrics for 2 songs and accompanying questions for 1 song.	WhatsApp, GD
			<u>Group B4:</u> No collaboration. Amy wrote the first draft of Group B4's story by herself and shared it with her group.	LINE, GD
	<u>Reflecting on Week 3 experience:</u> Not available - Considering the slow progress and so far, zero response to reflection prompts given in the previous weeks, this week I decided forgo reflection activity as I did not want to burden learners with extra work.		<u>Reflecting on Week 2 experience:</u> Learners were given prompts and options of medium for reflection, i.e. Facebook Group Wall (open for everyone to see) or email (private). One learner (Devi) wrote her reflection on Facebook Group Wall. One learner (Macy) responded via email. One learner (Kerri) responded via WhatsApp.	nnouncements made on Facebook, WhatsApp
Week 4 (Day 22-28)	<u>Drafting:</u> Both groups continued working on first draft (and receive ongoing teacher feedback).	GD, GD chat		
	<u>Giving and receiving inter-group feedback:</u> I combined the drafts from both groups in a new GD document. Learners gave and received peer feedback from the other group.	GD	<u>Giving and receiving inter-group feedback:</u> I combined the drafts from all groups in a new GD document. Learners gave and received peer feedback from the other groups.	GD

	Receiving teacher feedback: Learners received additional comments from the teacher, which aimed to help them improve their first draft.	GD, GD chat	Receiving teacher feedback: Learners received additional comments from the teacher, which aimed to help them improve their first draft.	GD
			Revising, editing, finalising artefact: Learners took into account inter-group and teacher feedback, made changes, and finalised their artefact.	GD
	Reflecting on Week 4 experience: Learners were given prompts and options of medium for reflection, i.e. Facebook Group Wall (open for everyone to see), Facebook messenger (private), WhatsApp message (private), or email (private). Hector sent the response to reflection prompts given in Week 1,2, and 4 via email. He also wrote his own reflection for Week 3 even though I did not provide reflection prompts that week.	Announcement made on Facebook	Reflecting on Week 3 and 4 experience: Not available - Considering the slow progress and low response rate to reflection prompts in the previous weeks, I decided to forgo reflection as I wanted students to focus on inter-group feedback and did not want to burden learners with extra work.	
Week 5 (Day 29-31)	Revising, editing, finalising artefact: Learners took into account inter-group and teacher feedback, made changes, and finalised their artefact.	GD		

	<u>Receiving final teacher feedback:</u> Learners received final feedback from me, in which I corrected linguistic errors, pointed out coherence issues, and praised learners' effort.	GD	<u>Receiving final teacher feedback:</u> Learners received final feedback from me, in which I corrected linguistic errors, pointed out coherence issues, and praised learners' effort. Group B1 did not finish their story. After careful consideration, I decided to finish it by transforming their bullet points into a story.	GD
Within 1 week after the project ended	<u>Interviews:</u> Learners participated in an individual interview.	WhatsApp, LINE	<u>Interviews:</u> Learners participated in an individual interview.	WhatsApp, LINE

Appendix E – Research diary

WEDNESDAY 12 October 2016 What happened today	Plans based on my observation
-Roy sent his Week 1 Reflection to email. He's frustrated with lack of participation from Naomi and Macy. But he understood the essence of PBL and was very apologetic about being individualistic. I said no need to apologise and I understand his frustration. *I also encourage him to encourage his team mate (by saying perhaps his lagging team mate will react differently to their peer's encouragement as opposed to mine*). -To encourage Group B2 & B4, I gave them a 'model' of Tiny Tea story and comprehension questions. I also gave them some choices: create original story, develop story from existing ones etc but nobody responded! -I decided to use both LINE and WhatsApp for Group B4 as right now it's very difficult to get them all in one chat app. -Group B1: Bob & Roy not online, they had things to do. Macy is online, she didn't seem to get the idea what her group was trying to do. I gave her the link to Bob's dustbin game. It's tiring to have to explain things all over again to Macy; but on the other hand, I'm happy to see that she's trying to catch up. Roy suddenly showed up at 10pm, it's good to see he's encouraging Macy by setting an example on what/how to do in GD ☺ → collaboration at last? Suddenly they're all (but Naomi) showed up on GD! I initiated the chat on GD and now they're talking amongst themselves! Hooray! It's really good to see they're working together, albeit I had to start by providing the structure columns etc on GD. Own reflection: sometimes PBL is frustrating, as I know I need to let students choose what they want to do. Example they chose this dustbin game, not encouraging them to use language to the best of their ability as they're using really simple language…	-If at the end of week 2, group B2 & B4 are still not making progress, maybe I need to prompt them even more. -Maybe I will stop pestering B2 & B4 for 2 days and see what happens on Friday evening? (If nothing, then on Sat I'm gonna have to do something).

Appendix F – Interview questions

Study A	Study B
1. What was your experience like in the past four weeks? 2. Why did you decide to participate in this project? 3. Did this project meet your expectations? Why/why not? 4. Do you think working on a project like this is a good way to learn English? Why/why not? 5. Could you tell me about how you learned English at school? Have you done any projects? What were they? 6. Have you ever taken English courses outside the school? Could you tell me more about it? 7. Throughout this project, we used three tools: Facebook, WhatsApp, and Google Docs. What do you think about the use of these tools? 8. Did you face any difficulties during the project? 9. How do you feel about collaborating with people you've never met before? 10. How did collaboration in this project compare with your previous collaborative experience at school and university? 11. (Only for active learners) Some members of your group contributed very little or none at all. How do you feel about this? 12. I wrote posts almost every day. How did this make you feel as a participant? 13. (For those who did not respond to reflection prompts at all) You were given prompts to help you reflect on your experience, but you didn't respond. Could you tell me why? 14. The project lasted for a month. What do you think about the length of this project? 15. Would you recommend this study to another student? 16. What suggestions can you make for improving this project? 17. If I have more questions, can I contact you again?	1. What do you think about the project? 2. Why did you decide to participate in this project? 3. Do you feel you've achieved what you wanted from the project? 4. In your own words, what were you asked to do in the project? 5. How did you feel about the task? 6. Have you done similar tasks in the past, or was this an entirely new experience? 7. What were the hardest parts of participating in this project? 8. How would you define collaboration? 9. In your own words, what are the important factors in a collaboration? 10. If you were given the option in this project, would you have chosen to work alone or in groups? 11. What do you think about the collaboration between your team members? 12. (Only for active learners) Some members of your group contributed very little or none at all. How do you feel about this? 13. You were encouraged to use English throughout the project. How did you feel about this? 14. How would you describe my role in this project? 15. What do you think is the most important task for a … ? (depending on learners' response to question 14) 16. I wrote posts almost every day. How did this make you feel as a participant? 17. We used various tools: Facebook, WhatsApp, GD (and LINE for Group B4). What do you think about the use of different tools in this study? How does this compare to your everyday use of social media? 18. (For those who did not respond to reflection prompts at all) You were given prompts to help you reflect on your experience, but you didn't respond. Could you tell me why? What could be the use of self-reflection? 19. Would you do a similar project like this again? 20. Do you have any suggestions for improving this study?

Appendix G – Final group artefacts

Group A1

A forest tale

Once upon a time, earth was a beautiful place to lived in. Big forest could be found everywhere. Although Earth had a lot of forests, there was one that was different from the others. However, there was one that is different than the others. This forest was located in Indonesia, where animals lived in harmony and prosperity. They never lacked anything they need from year to year. People called it "Solemtation".The reason why people called it Solemtation because it was very warm, and attracted animals and even humans became curious about it. There was an animal kingdom led by the wise and powerful tiger in the center of Solemtation. They never lacked anything they needed and lived in harmony.

One day humans came and settled down in the forest. At first the animals thought they came in peace and to bond with them. but as time went by humans began to ignored the animals. However, humans started to destroying everything in sight! They cut down the trees, every single one of them! The animals got scared and sad, because their home and sources of food is long gone now. 'My house!' cried the parrot, 'I've been living there ever since I was born!'. 'They cut down everything in sight!' said the orangutan, with a sad tone, 'Why are they doing this to us!'

That accident made all of the animal felt helpless, they gathered together and spoke out their mind and anger. Suddenly the wise tiger spoke out, 'We can't let them do this to our land and home! Who do they think they are!' 'Oh the wise tiger, we lose everything, what are we gonna do now? We don't even have a home!' said the elephant, in the verge of tears. 'We still have ourself, you silly,' said the tiger. 'We gonna show them who's the owner of the forest!' After listened to their king, the animals decided to fought back and reclaim their home!

The next day the animals secretly held a meeting while the humans were asleep. They all agreed to carry out the plan by the next night, before humans demolished the whole forest! When the sun set, the parrots sneakily perched to the nearest house, while imitating the human's voice, 'Fire! Fire! Quick, get out! Quick, get out!' Humans, who weren't aware about the whole situation quickly ran out from their home..only to be met by a bunch of porcupine...and their quills! 'Ouch!! Ouch!!' cried one of the human. 'Serves you right!' yelled the porcupine, while giggling.

Some of them managed to avoid the deadly quill, but hold on! Bbbzzzz...bzzzzz.. A swarm of bees was already on their way to sting the human! 'Someone dropped our beehives! It must be you guys!' said the queen bee. Little did they know, the culprit who dropped the beehives is none other than the bear. The bear watched the humans ran in fear behind the bushes, while enjoyed his honey. 'Quick, let's go to the river! Bees can't swim!' yelled one of the human. But as soon as they reached the river, the hippopotamus immediately jumped out from the water. The humans were so surprised, they fell to the ground in fear. Last but not least, the elephant sprayed them with lots of water, to confuse them even more.

'Oh please stop! We are so sorry for what we did!' begged one of the human. 'We didn't know there's still lots of animal lived in this place! We apologize for being so selfish!' The tiger commanded the rest of the animals to stop.

'Good to know you understand what you did is wrong! But now we have nowhere to live, most of the trees are long gone!'

The man took quite some time to think,'Oh I have an idea! We'll help you to rebuilt the entire forest. We can always start over! Please accept it as a part of our apology'

The wise tiger took quite some time before nodded his head,'That would be the best option we all have, but promise us you won't destroy our forest ever again!' 'We promise you!' said the human.

And so, they rebuilt the forest. With the remaining wood, they built a new house for the animals. They also planted some new trees, to replace the one that had been cut down. The animals were really happy with it, they don't have to worry about their home anymore! 'Thank you very much! Now we can live in peace again. Although it looks a bit different, but at least we don't have to move into somewhere far!'

And so, they lived peacefully side by side.

EXERCISE A: Vocabulary
Match the words from the story with the correct definition.

1.in sight (paragraph 2&3)
Definition: something that can be seen

2. culprit (paragraph 4)
Definition : someone who have done something either bad or good things

3. demolish (paragraph 4)
Definition : everything's destroyed (or an action to completely destroy something)

4. quill (paragraph 4)
Definition : a part of animal that is sharp and used to protect itself

5. aware (paragraph 4)
Definition : knowing something (or a condition where you know what's going on)

EXERCISE B: READING COMPREHENSION
Answer the questions about the story

1. How many animal were in the story? (answer : D)
a.6 b. 9 c. 5 d. 8

2. Why did the animal starts attacking people? (answer : C)
a.Because people starts kidnapping the baby animal.
b.Because the animal want to play with people.
c.Because people destroyed their home.
d.Because the animal want to show their love to people.

3. How do the animals defend their home? (answer : A)
a.They work together to attack people
b.They built shelter to take cover
c.They call back up and declare war to people.
d.They burned people's houses down (LOL WE SHOULD HAVE DONE THIS)

4. These following statement is not in the story, except? (answer : C)
a.People starts attacking animal.
b.The animal surrender and people began to expand the destruction.
c.People and animal became friends again in the end.
d.This destruction lasted for a very long time.

5. What is the moral of the story? (answer : B)
a.Don't be arrogant and selfish person.
b.Respect others and they respect you back.
c.People and animal are equals, they both need to be loved.
d.War makes everything easier.

Group A2

3 Pigs: One Family, Two Different Fates

(1) Once upon a time, there lived a happy pig family. Their father had passed away a long time ago, so the mother had raised the three kids all by herself. After some time, the piggy mom told her sons that she was too old to live with them and all of them should **settle down** somewhere and build houses on their own. However, since houses were very expensive, they asked their mother for some money. Unfortunately, their mother only had 2 things, which were some peas and a little goldfish. She gave the peas to the eldest son and the goldfish to the second son. Since she did not have anything else to give to the youngest son, she decided to pass on words of wisdom: "to build your own house, you must work hard."
(2)Thereafter, all 3 pigs left their mother's house and went their separate ways. The first pig immediately threw the peas away as he think that it would not help him in building a house. The second pig tried to raise the goldfish, but it did not grow up, so he also decided to throw them away. Meanwhile, the little pig who had been told to work hard by his mom found the peas thrown by his brother and decided to plant them. The next day, the peas surprisingly grew into a giant tree that pierced the clouds. The youngest pig then decided to climb the tree to reach the clouds where he found a kind fairy. The fairy then told the young pig to take the goldfish that had been thrown by his elder brother and **release** it into the sea. After that, the youngest pig climbed down the tree and immediately returned the goldfish to the sea.
(3)After they had reached the sea, the goldfish suddenly started to speak and thanked the little pig for his kindness, the goldfish then gave the pig a box of tools before leaving to find its long lost family. The pig opened the box, he found all the **equipment** needed to build a house, namely bricks, a hammer, roof tiles, and many others.
(4)The next day, the elder pigs found their **sibling** and were surprised that their little brother had possessed such equipments. The third pig explained about what happened and it made his brothers regret their decisions to throw away their mother's gifts. They also tried to ask the little pig to hand over his equipments to them, but he refused. The first and second brother then gave up and returned to their mother's home.
(5)However, the youngest pig actually did not know how to build a house, so he climbed the giant pea tree again to ask the kind-hearted fairy. The fairy knew the story and helped the little pig by casting a magical spell "Taaaa-Daaa". Suddenly all the fairies from heaven flew down to the Earth and helped the little pig to build his house.
(6)In time, the mother passed away and her house was crushed by a falling tree. The first and second pigs had no **shelters** but did not dare to ask the third pig. Henceforth, they were homeless for the rest of their lives. Conversely, the third pig was safe and sound in his newly built house and lived happily ever after.

EXERCISE A: READING COMPREHENSION

1.Who received a goldfish?
Piggy Mom
Eldest Pig
Second Pig
Youngest Pig

2.Who helped the youngest pig to build his house?
Piggy Mom
Eldest Pig
Second Pig
Fairies

3.Who gave the youngest pig a toolbox?
The Kind Fairy
Piggy Mom

The Goldfish
The Peas

4.What did the mom give to her children?
5.Why did the 1st and 2nd pigs throw away the things their mom gave them?
6.Why did the elder pigs return to their mother's house instead of living with their younger brother?
7.How did the little pig build his house?

EXERCISE B: VOCABULARY
Match the words (written in bold) from the story with the correct synonyms.

1. Settle down (paragraph 1) ( )	A. Things
2. Release (paragraph 2) ( )	B. Homes
3. Equipment (paragraph 3) ( )	C. Free
4. Sibling (paragraph 4) ( )	D. Live
5. Shelters (paragraph 6) ( )	E. Brother

Group B1

DUST-BIN GAME

Instruction
Drag and drop each trash (words) into the correct bin (categories). For example: Drag and drop "apple" to "fruits". Drag and drop "carrot" to "vegetables".
The leaderboard reset every time the webpage reloaded. So if you want to compete with your friends, it's better if you write down the score.

Content

Category: Food

Fruits	Vegetables	Meat and fish	Dairy
Pineapple	Spinach	Pork	Cheese
Soursop	Carrot	Beef	Yogurt
Banana	Onion	Lamb	Butter
Apple	zucchini	Mutton	~~Casein~~
Orange	Mushroom	turkey	Sour cream
Mangosteen	Cabbage	Carp	Gelato
Starfruit	Tomato	Salmon	Ice cream
Watermelon	Potato	catfish	~~Caudle~~
Papaya	Radish		Custard
Grape	Celery		Soft serve
Apricot	Pumpkin		Cornstarch Pudding (?)
Lychee	pea		
raspberry			

Notes:
1. Link: http://www.classtools.net/widgets/dustbin_7/w9Pow.htm
2. Meat is "daging", so what we need to list are types of "daging"
3. Dairy is "olahan susu".
4. Riko's note: I added more difficult vocabularies and delete "casein". Also I changed the capitalized alphabet. Don't forget that we don't need to capitalize the first alpahabet in a word.

Category: Integer

Even Numbers	Odd Numbers

Two	Nine
One hundred	Five hundred and twenty three
Two thousand and fifty	One million and fifty five
Twelve	Twenty one
Eighteen	Seven hundred and forty seven
Six	Two thousand and thirty nine
Twenty eight	Seven
Five hundred and fourteen	Forty Five
Seventy	Nine Hundred and ninety nine
Ten million ~~and~~ four hundred	Four thousand and fifty three

Notes:

1. Link: http://www.classtools.net/widgets/dustbin_4/nVs0J.htm

Category: Parts of speech

Nouns	Verbs	Adjectives	Adverbs
Pen	Walk	Beautiful	Happy
Apple	Run	Adorable	In the classroom
Pineapple	Go	Gorgeous	Quickly
Computer	Look	Nice	Yesterday
Handphone	Eat	Strong	Tomorrow
Camera	Write	Handsome	Tonight
Pie	Read	Diligent	Last Night
Rice	Speak	Smart	Sad
Shoes	Drink	Rich	Angry
Coconut	Sleep	Poor	Slowly

Notes:

1. Link: http://www.classtools.net/widgets/dustbin_7/y6hM2.htm

Group B2

Teeth

Most of people think that childhood is the most precious time they ever had, when they could have so many kinds of sweet food. It was the only time when they would fairly considered normal on their obesity. In his ten years old, Didi, should become more aware towards his hobby. Almost a month ago, the dentist suggested him to be less posessed with sugary food, but he ignored it. Even after losing his two front teeth, he was still extremely addicted with chocolate candy and ice cream. It was a night, in his friend's birthday party, where all nice foods were available there. Without thinking later he would get the anger of her mom, within several minutes he had finished bunch of candy sticks, chocolate and some creamy cupcakes. Even when the party was over and some people leaved the place, he quietly gripped candies from the chocolate box and saved them in his large pocket. At that time, he thought that no one care him or, would just catch his action. After he satisfied with the food,he felt asleep and forgot to brush his teeth as he came home….

At one night Didi woke up because his teeth got extremly pain. Then, he immediately got out of bed and knocked on his parents' bedroom quickly. His parents was shocked and immediately asked condition of his teeth. It turned out there is a hole in his molar teeth and it hurt like hell. he was crying in pain. his mother told him not to eat sweets and chocolate again.

the next morning he went to dental medicine and checked his teeth turned out he must losing his teeth again doctor said. he was shocked and cried because his teeth will be revoked. It made him regret and do not want to eat candy and chocolate again. coming home from the dentist he now always remember to brush his teeth at night helped his mother, who always set an example to him to always brush your teeth at night

after you read about the story answered correctly the following question in accordance story above!

1. What is the suitable title for a narrative text above?
   - A. If you were lazy to brush your teeth
   - B. If A Boy Skipped His Class
   - C. Helping Parents
   - D. Going to dentist
2. How many characters are there in the story?
   - A. one
   - B. two
   - C. three
   - D. four
3. What Didi has suffered?
   - A. abdominal pain
   - B. sore mouth
   - C. toothache
   - D. sore tongue
4. He, in the phrase "he was shocked and cried ..." (in pharagraph 3, line 2) refers to?
   - A. didi
   - B. parents
   - C. dentist
   - D. sister
5. When does someone should brush their teeth after eating sweets at night?
   - A. bedtime
   - B. morning
   - C. before the bath
   - D. before playing
6. What can we learn from the story?
   - A. Love your teeth
   - B. Brushing teeth frequently is a good habit to start
   - C. Helping parent is an obligatory thing
   - D. Dentist is an exciting profession

7. What s the closest meaning with the word ‘Revoked’
   - A. repealed
   - B. disappeared
   - C. patched
   - D. scrapped

8. Which one is the healthy food?
   - A. 
   - B. 

C. 

D. 

9. If you get toothache, where should you go?
   A. psychiatry
   B. restaurant
   C. dentist
   D. Ice cream and chocolate store
10. Why do you think you should beware of sweet food ?
   A. It is only limited
   B. It can cause some health problems, like obesity and toothache
   C. lit has so many nutritions which is good for our health
   D. it is delicious and expensive

Group B3

SONG 1: "I Want Fruit" (melody Rasa Sayange)

Melody here: https://www.youtube.com/watch?v=kt9LzOkx_rU&app=desktop&ab_channel=BibitsKu

Rasa sayange...
Rasa sayang sayange...
Ee lihat dari jauh rasa sayang sayange

I want bananas
I want apples, I want pears
I want mangos, I want melons
I want longans
I want fruits

Ma-na kan-cil a-kan di-ke-jar
Ke da-lam pa-sar co-ba-lah ca-ri
Ma-sih ke-cil ra-jin be-la-jar
Su-dah be-sar se-nang lah di-ri

Fruits are sweet, sour and tasty

And they have beautiful colours
Yellow, red, orange, and green
Let's sing together as follows

I want bananas
I want apples, I want pears
I want mangos, I want melons
I want longans
I want fruits

Ka-lau a-da su-mur di la-dang
Bo-leh ki-ta me-num-pang man-di
Ka-lau a-da u-mur-ku pan-jang
Bo-leh ki-ta ber-jum-pa la-gi

Fruits are delicious and healthy
'Cause they are full of vitamins
Don't eat too fast, just eat slowly
Journey of healthy life begins

I want bananas
I want apples, I want pears
I want mangos, I want melons
I want longans
I want fruits

Questions

1. How many fruits are mentioned in the song? What are they?
2. What is longan in Bahasa Indonesia?
3. How many colours are mentioned in the song? What are they?
4. What's nutrition contained in the fruit that is good for your health?
5. Can you mention five Indonesian fruits?

Key answer:

1. Six. Banana, apple, pear, mango, melon, and longans.
2. Lengkeng.
3. Four. Yellow, red, orange and green.
4. Vitamins.
5. Rambutan, mangosteen, dukuh, durian, starfruit. Other options: Papaya, guava, soursop, snakefruit.

SONG 2: APUSE

A-pu-se ko-kon da-o
Walking to the farm then see

Ya-ra-be so-ren do-re-ri
There are many animals to count

Wuf len-so ba-ni ne-ma ba-ki pa-se
Let's mention what animals are in the farm

A-pu-se ko-kon da-o
Buffalo, chicken and dog

Ya-ra-be so-ren do-re-ri
Cow, pig, cat, donkey and rabbit

Wuf len-so ba-ni ne-ma ba-ki pa-se
Horse, duck, sheep, cow, cat and goat
Let's sing again.

Arafabye aswarakwar
Arafabye aswarakwar

Group B4

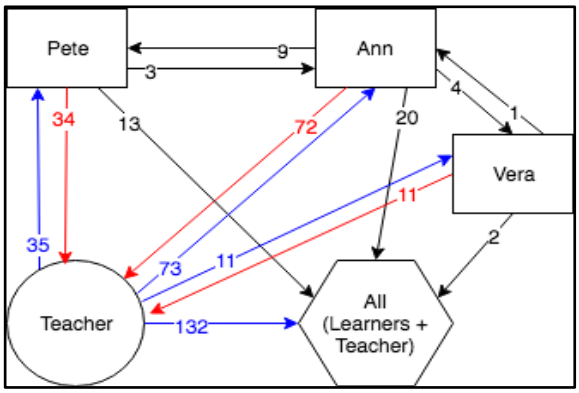
The Boy Who Lie To His Family and Friends

He was a medical student which enjoyed his life as a jazz musician. He played guitar and practiced almost everyday. (can be deleted/ changed if necessary) However, somehow he took a side his main job as a student, as he wanna skip his anatomy class since he was not finishing his homework, he was too busy in a band. One sunny morning, Mrs Wangsa tried to wake up her son, “Come on Aryo, you’ll be late” Aryo tried to covered up his head to toe “HOOOAAAACCHIIING, Mom.. I thought I was flu, could I had some rest for today?” “Oh dear, sure.. I would get you some medicine in a minute” Aryo smiled for he free from the punishment that possibly happened to him. Moreover, by the time he absent a lot of thing happened since Tompy, his favourite musician, came to the school. Dito, his best friend visited him to show off the signature from their idol. at the following night, all of his family went to the cinema to watch the premier of batman which is his favourite movie ever. Off course he could not make it since he was pretending in illness. The moon was shining brightly, he found himself at the music shop. “I though I need to buy a new electric guitar” Aryo tried to comfort himself for all the bad luck of the day. However, suddenly there was an old man said that he could not afford it. He tried to withdraw some money in ATM. However, he did not get the money yet the note state : “Hey boy! You did not have a currency that applies here”. Again….. “the honesty is accepted currency everywhere!” . He woke up from his nightmare and in a morning he convey the real story to his family. SURPRISINGLY as a reward his sister give him a ticket for java jazz since his sister would perform as pianist during the concert. OMG! The guest star was TOMPI, his favorite musician ever, he could not believe it. God must be so good to him. Finally, he discovered another life lesson in which the truth would worth. It’s priceless.

“In the beginning lies can seem helpful, but as time goes on they will backfire on you”

Appendix H – Patterns of interaction

WhatsApp



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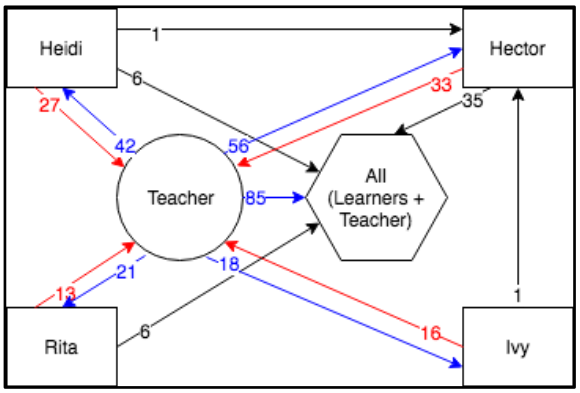

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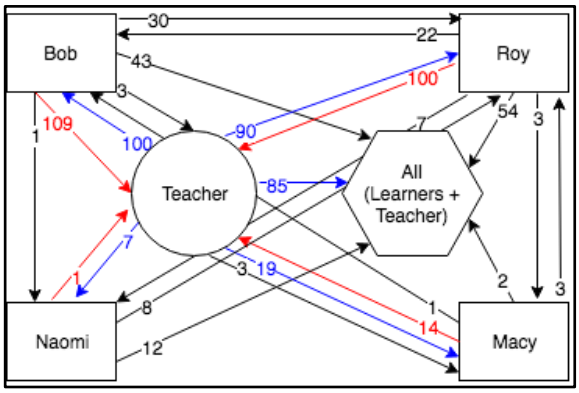

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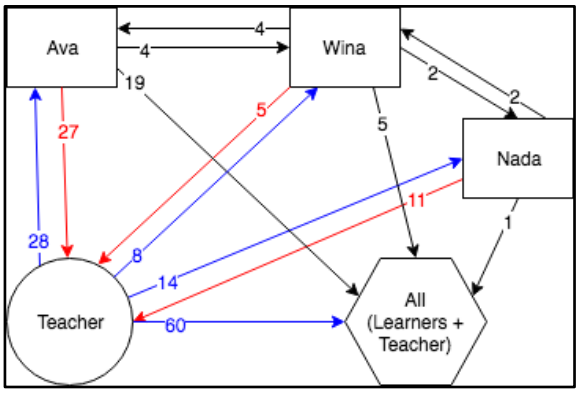

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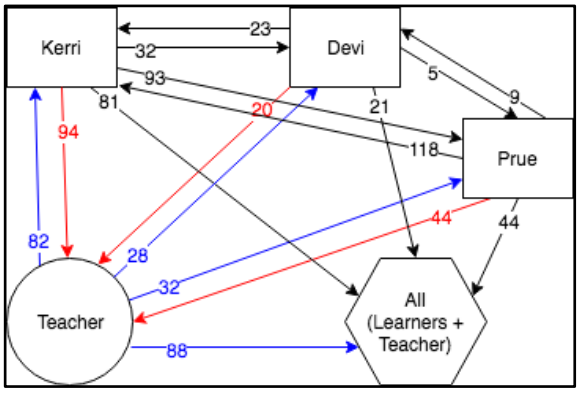
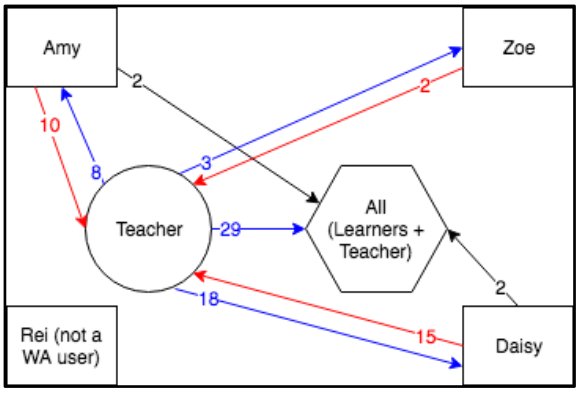
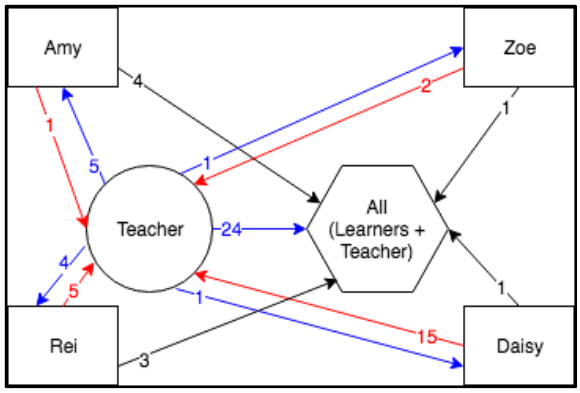


Group B3



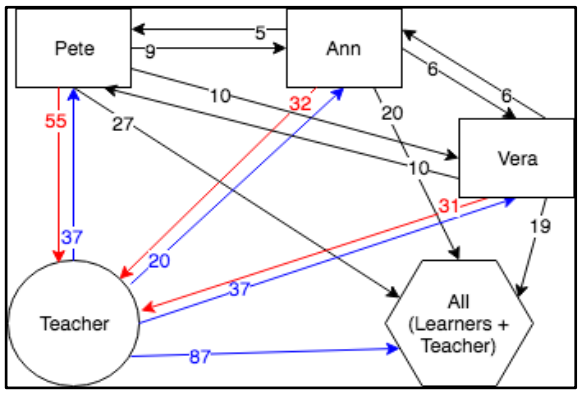
Group B4

LINE



Group B4

Google Docs chat



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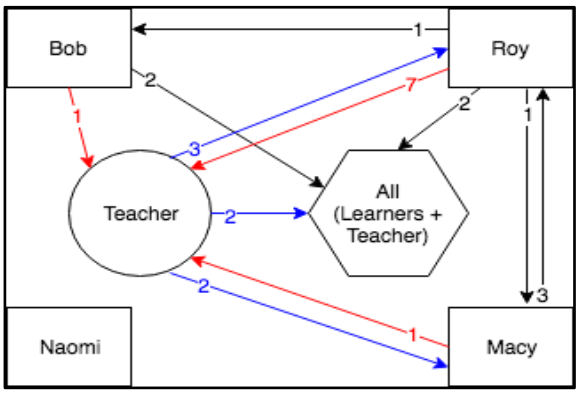
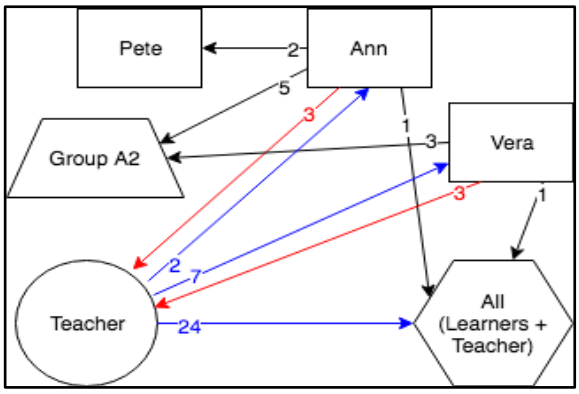


Group B1

Google Docs comment (inter- and intra-group comments)



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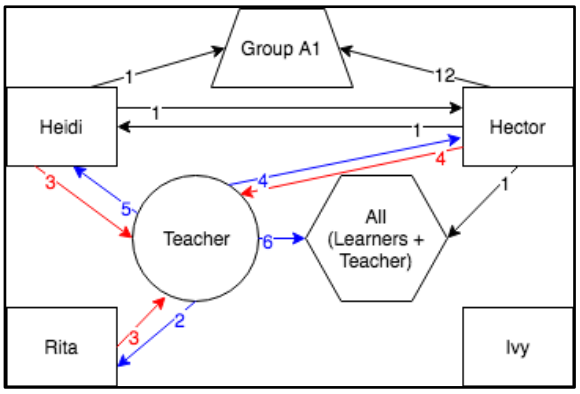

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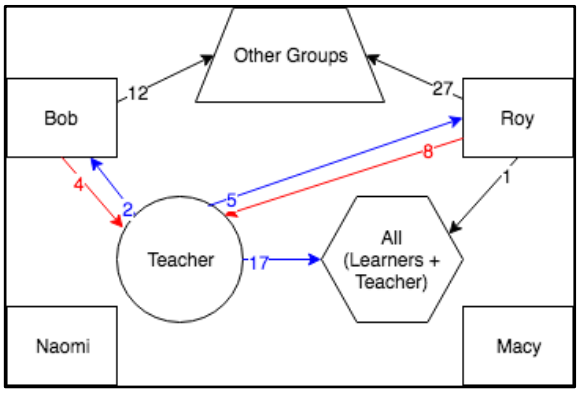

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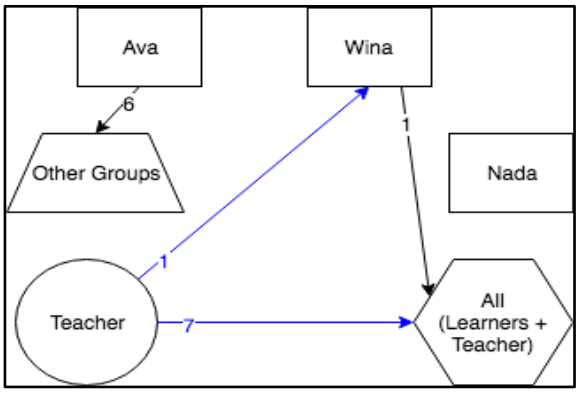

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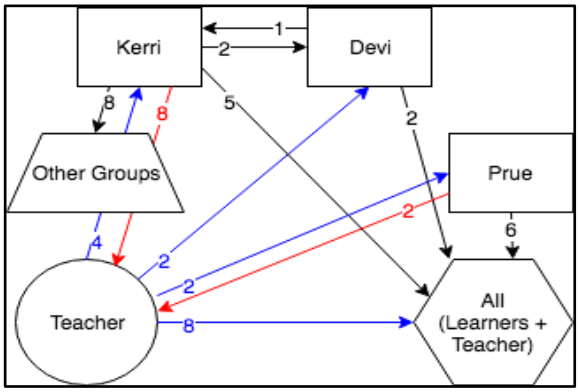

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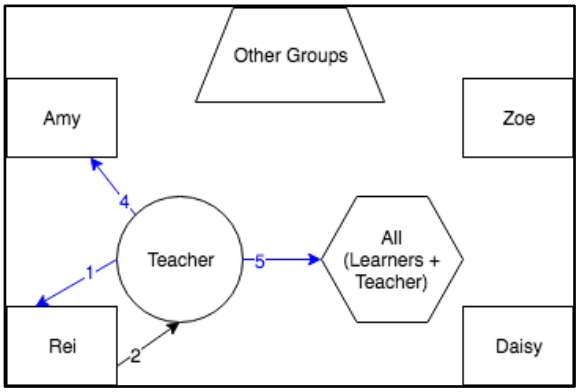

Group B4